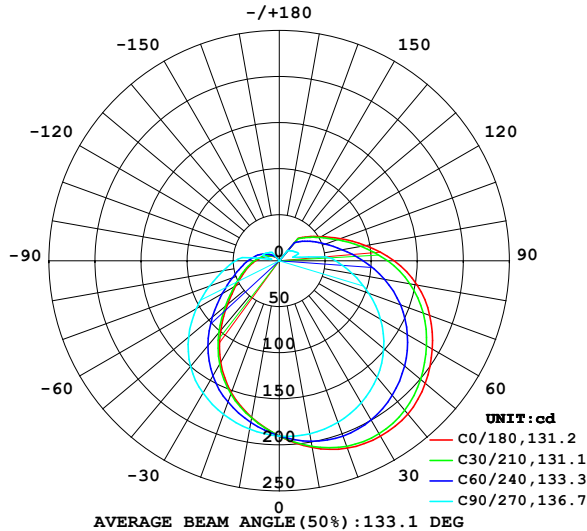


LUMINAIRE PHOTOMETRIC TEST REPORT

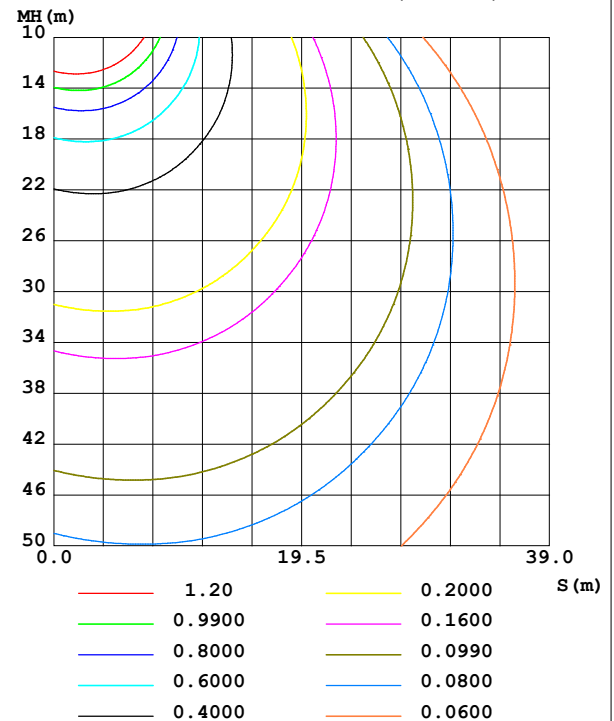
NAME: 93M20TLB1030/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: sphere	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	93M20TLB1030/BL	Imax(cd)	220.8	S/MH(C0/180)	1.03
NOMINAL POWER(W)	10	LOR(%)	118.3	S/MH(C90/270)	1.30
RATED VOLTAGE(V)	48	TOTAL FLUX(lm)	946.30	$\eta$ UP,DN(C0-180)	12.1,51.0
NOMINAL FLUX(lm)	800	CIE CLASS	SEMI-D.	$\eta$ UP,DN(C180-360)	9.9,45.4
LAMPS INSIDE	1	$\eta$ up (%)	21.9	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	48	$\eta$ down (%)	96.3	CIBSE SHR MAX	1.55

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:11 November 2022

$\gamma$  Range: 0 - 140DEG  
 $\gamma$  Interval: 2.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

### ZONAL FLUX DIAGRAM

#### ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	205.7	202.4	190.8	179.3	172.8	175.6	185.6	198.3	0- 10	18.10	18.10	1.91,2.26
20	216.4	209.6	186.7	165.0	152.6	157.5	177.6	201.3	10- 20	52.78	70.87	7.49,8.86
30	219.9	209.9	178.2	146.5	127.2	135.3	165.9	198.6	20- 30	82.45	153.3	16.2,19.2
40	217.2	202.9	165.3	123.3	99.07	109.1	150.0	190.8	30- 40	103.6	257.0	27.2,32.1
50	207.0	190.3	148.2	97.70	73.42	83.36	128.6	178.6	40- 50	114.4	371.3	39.2,46.4
60	191.8	174.4	127.0	74.11	54.57	62.13	104.0	161.8	50- 60	115.1	486.4	51.4,60.8
70	174.0	155.4	103.4	56.18	41.99	47.57	80.60	140.0	60- 70	108.3	594.7	62.8,74.3
80	152.0	132.3	80.55	43.92	32.99	37.49	61.42	114.5	70- 80	95.98	690.7	73,86.3
90	124.9	106.4	61.32	35.15	25.88	29.84	47.83	89.06	80- 90	80.07	770.8	81.4,96.3
100	95.66	81.28	23.26	28.27	19.94	23.56	9.230	67.32	90-100	62.32	833.1	88,104
110	70.62	61.11	22.40	22.53	14.91	18.26	19.37	48.77	100-110	44.60	877.7	92.7,110
120	52.67	47.14	19.96	17.08	10.71	13.55	16.67	40.95	110-120	31.17	908.9	96,114
130	40.76	37.33	17.06	12.06	7.286	9.302	14.13	33.05	120-130	21.63	930.5	98.3,116
140	32.12	29.40	14.58	7.889	4.700	5.892	12.19	26.66	130-140	14.42	944.9	99.9,118
150	0	0	0	0	0	0	0	0	140-150	1.398	946.3	100,118
160	0	0	0	0	0	0	0	0	150-160	0	946.3	100,118
170	0	0	0	0	0	0	0	0	160-170	0	946.3	100,118
180	0	0	0	0	0	0	0	0	170-180	0	946.3	100,118
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 313.46 lm

%lum = 33.1%  
%lamp = 39.2%

Conical surface Flux(130deg): 541.82 lm

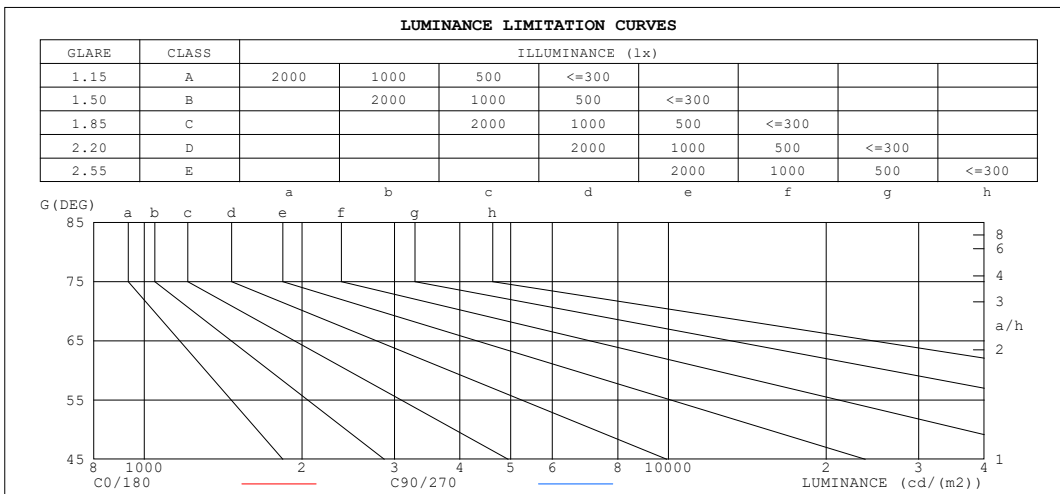
%lum = 57.3%  
%lamp = 67.7%

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:11 November 2022

$\gamma$  Range: 0 - 140DEG  
 $\gamma$  Interval: 2.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

**LUMINANCE LIMITATION CURVES**

NAME: 93M20TLB1030/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: sphere	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2279926	1140039
80	1251088	655327
75	903944	498943
70	727260	427106
65	620264	385886
60	548508	358848
55	498200	340047
50	460438	325650
45	430777	314334

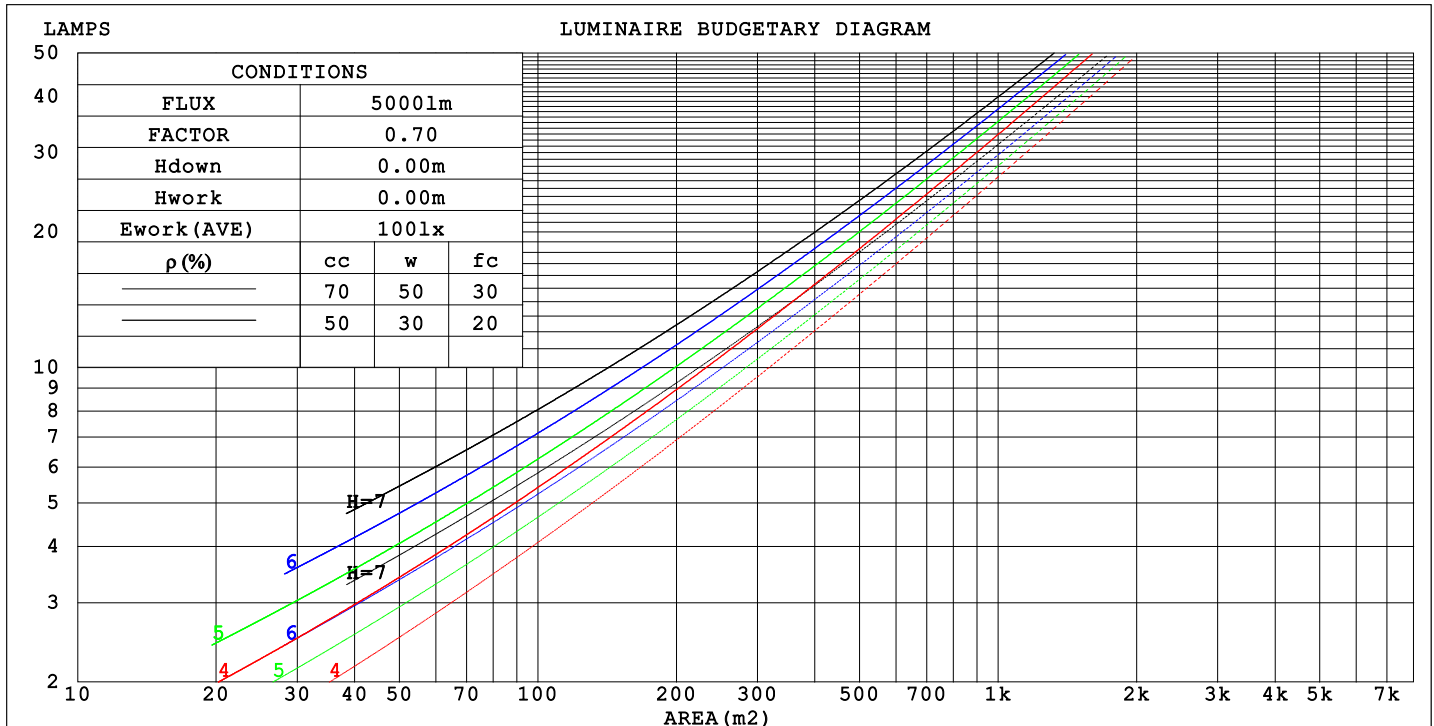
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 11 November 2022

γ Range: 0 - 140DEG  
 γ Interval: 2.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
 Humidity: 65.0%  
 Test Distance: 6.265m [K=1.0000]  
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: 93M20TLB1030/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: sphere	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 11 November 2022

γ Range: 0 - 140DEG  
 γ Interval: 2.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
 Humidity: 65.0%  
 Test Distance: 6.265m [K=1.0000]  
 Remarks:

## WEC AND CCEC

NAME: 93M20TLB1030/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: sphere	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.472	.269	.085	.457	.261	.083	.428	.246	.078	.402	.232	.074	.378	.219	.071	
2.0	.404	.222	.068	.391	.215	.066	.365	.203	.063	.341	.191	.060	.319	.180	.057	
3.0	.357	.190	.057	.345	.185	.056	.321	.174	.053	.299	.164	.050	.279	.155	.048	
4.0	.320	.166	.049	.309	.162	.048	.288	.153	.046	.268	.144	.043	.250	.136	.041	
5.0	.290	.148	.043	.280	.144	.042	.261	.136	.040	.243	.128	.038	.226	.121	.036	
6.0	.265	.133	.038	.256	.129	.037	.238	.122	.036	.222	.115	.034	.207	.109	.032	
7.0	.244	.121	.034	.236	.118	.033	.220	.111	.032	.205	.105	.031	.191	.099	.029	
8.0	.226	.111	.031	.219	.108	.030	.204	.102	.029	.190	.096	.028	.177	.091	.026	
9.0	.211	.102	.028	.204	.099	.028	.190	.094	.027	.177	.089	.025	.165	.084	.024	
10.0	.197	.094	.026	.190	.092	.026	.178	.087	.025	.166	.082	.023	.155	.078	.022	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.392	.392	.392	.335	.335	.335	.229	.229	.229	.132	.132	.132	.042	.042	.042	
1.0	.389	.352	.319	.333	.302	.275	.228	.208	.190	.131	.120	.110	.042	.039	.036	
2.0	.381	.325	.278	.327	.280	.241	.224	.194	.168	.129	.113	.098	.041	.036	.032	
3.0	.372	.306	.253	.319	.264	.219	.219	.183	.154	.127	.107	.091	.041	.035	.030	
4.0	.363	.291	.237	.312	.252	.205	.214	.175	.145	.124	.103	.086	.040	.033	.028	
5.0	.354	.280	.225	.304	.242	.196	.209	.169	.138	.121	.099	.082	.039	.032	.027	
6.0	.345	.270	.217	.297	.234	.189	.205	.164	.134	.119	.096	.079	.038	.032	.026	
7.0	.337	.263	.211	.289	.228	.184	.200	.160	.130	.116	.094	.078	.038	.031	.026	
8.0	.329	.256	.206	.283	.222	.180	.196	.156	.128	.114	.092	.076	.037	.030	.025	
9.0	.321	.250	.203	.277	.217	.177	.192	.153	.126	.112	.090	.075	.036	.030	.025	
10.0	.314	.246	.200	.271	.213	.174	.188	.150	.124	.110	.089	.074	.036	.029	.025	

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:11 November 2022

γ Range: 0 - 140DEG  
γ Interval: 2.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

NAME: 93M20TLB1030/BL					TYPE:					WEIGHT: 1				
SPEC.:					DIM.: F100					SERIAL No.: 0				
MFR.: Elmark Industries JSC					SUR.: sphere					Shielding Angle:				
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3				
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3				
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2				
Room dimensions					Viewed crosswise					Viewed endwise				
x = 2H y = 2H	35.6	37.0	36.1	37.5	38.1	34.0	35.4	34.5	35.9	36.5				
3H	38.4	39.7	39.0	40.3	40.9	36.2	37.5	36.8	38.1	38.7				
4H	40.0	41.2	40.6	41.8	42.4	37.4	38.6	38.0	39.2	39.8				
6H	41.7	42.9	42.3	43.4	44.1	38.6	39.8	39.2	40.4	41.0				
8H	42.6	43.7	43.2	44.3	45.0	39.3	40.4	39.9	41.0	41.7				
12H	43.7	44.8	44.3	45.4	46.1	40.1	41.1	40.7	41.7	42.4				
4H 2H	36.3	37.6	36.9	38.1	38.8	35.2	36.4	35.8	37.0	37.6				
3H	39.4	40.5	40.0	41.1	41.8	37.7	38.8	38.3	39.4	40.1				
4H	41.1	42.1	41.8	42.8	43.5	39.0	40.0	39.7	40.7	41.4				
6H	43.0	43.9	43.7	44.6	45.3	40.4	41.3	41.1	42.0	42.7				
8H	44.1	44.9	44.8	45.6	46.4	41.2	42.0	41.8	42.7	43.4				
12H	45.3	46.0	46.0	46.7	47.5	42.0	42.8	42.7	43.5	44.3				
8H 4H	41.6	42.5	42.3	43.1	43.9	40.0	40.8	40.7	41.5	42.3				
6H	43.8	44.5	44.5	45.2	46.1	41.7	42.4	42.4	43.1	43.9				
8H	45.1	45.7	45.8	46.4	47.3	42.7	43.3	43.4	44.0	44.8				
12H	46.5	47.1	47.3	47.8	48.7	43.7	44.3	44.4	45.0	45.8				
12H 4H	41.7	42.5	42.4	43.2	44.0	40.3	41.1	41.0	41.7	42.5				
6H	44.0	44.7	44.7	45.4	46.2	42.2	42.8	42.9	43.5	44.4				
8H	45.4	46.0	46.1	46.7	47.5	43.3	43.8	44.0	44.5	45.4				
Variations with the observer position at spacings(CIE Pub.117):														
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1								
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3								
2.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.5								

CIE Pub.117, 800.0 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.8)  
Area: 0.0007065 m2

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:11 November 2022

γ Range: 0 - 140DEG  
γ Interval: 2.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

NAME: 93M20TLB1030/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: sphere	Shielding Angle:

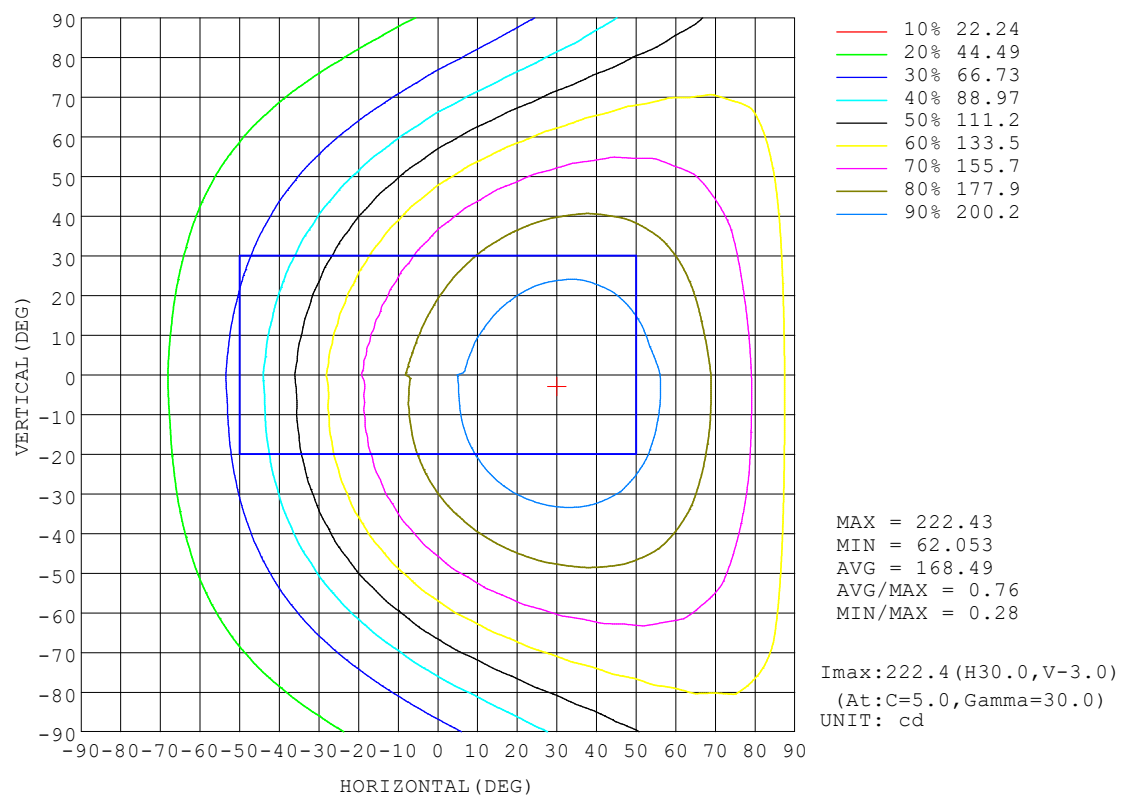
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	55	41	32	54	40	32	52	39	31	23
0.80	66	50	41	64	50	40	61	48	39	30
1.00	75	60	49	73	58	49	69	59	47	37
1.25	83	68	58	80	66	57	75	63	55	43
1.50	89	74	64	86	73	63	80	69	60	48
2.00	98	84	74	94	82	73	88	77	69	55
2.50	103	91	81	99	88	79	92	83	75	60
3.00	108	96	87	104	93	85	96	87	80	64
4.00	114	104	96	109	100	93	100	93	87	70
5.00	117	109	101	112	105	98	103	97	92	74
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:11 November 2022

γ Range: 0 - 140DEG  
γ Interval: 2.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

# ISOCANDELA DIAGRAM

NAME: 93M20TLB1030/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: sphere	Shielding Angle:



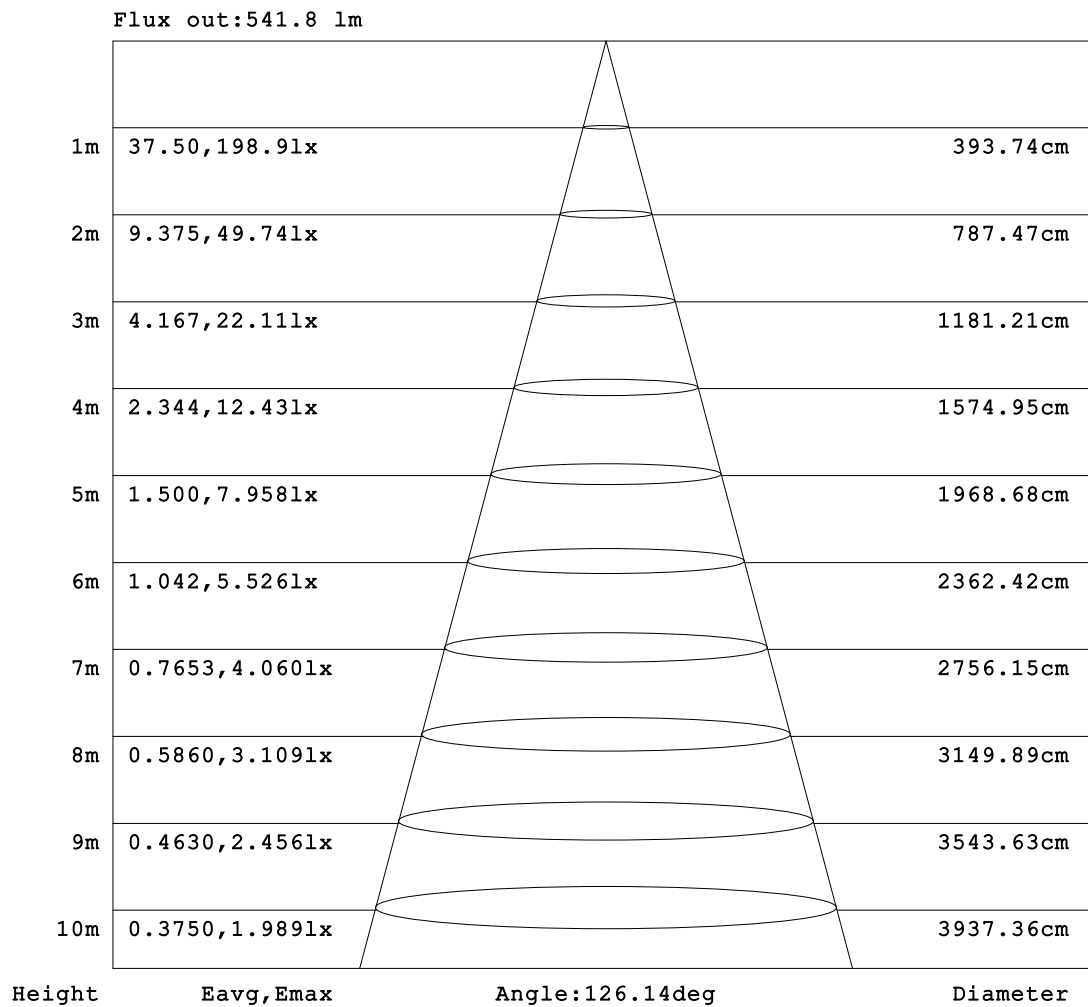
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:11 November 2022

γ Range: 0 - 140DEG  
γ Interval: 2.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:



**AAI Figure**

NAME: 93M20TLB1030/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: sphere	Shielding Angle:



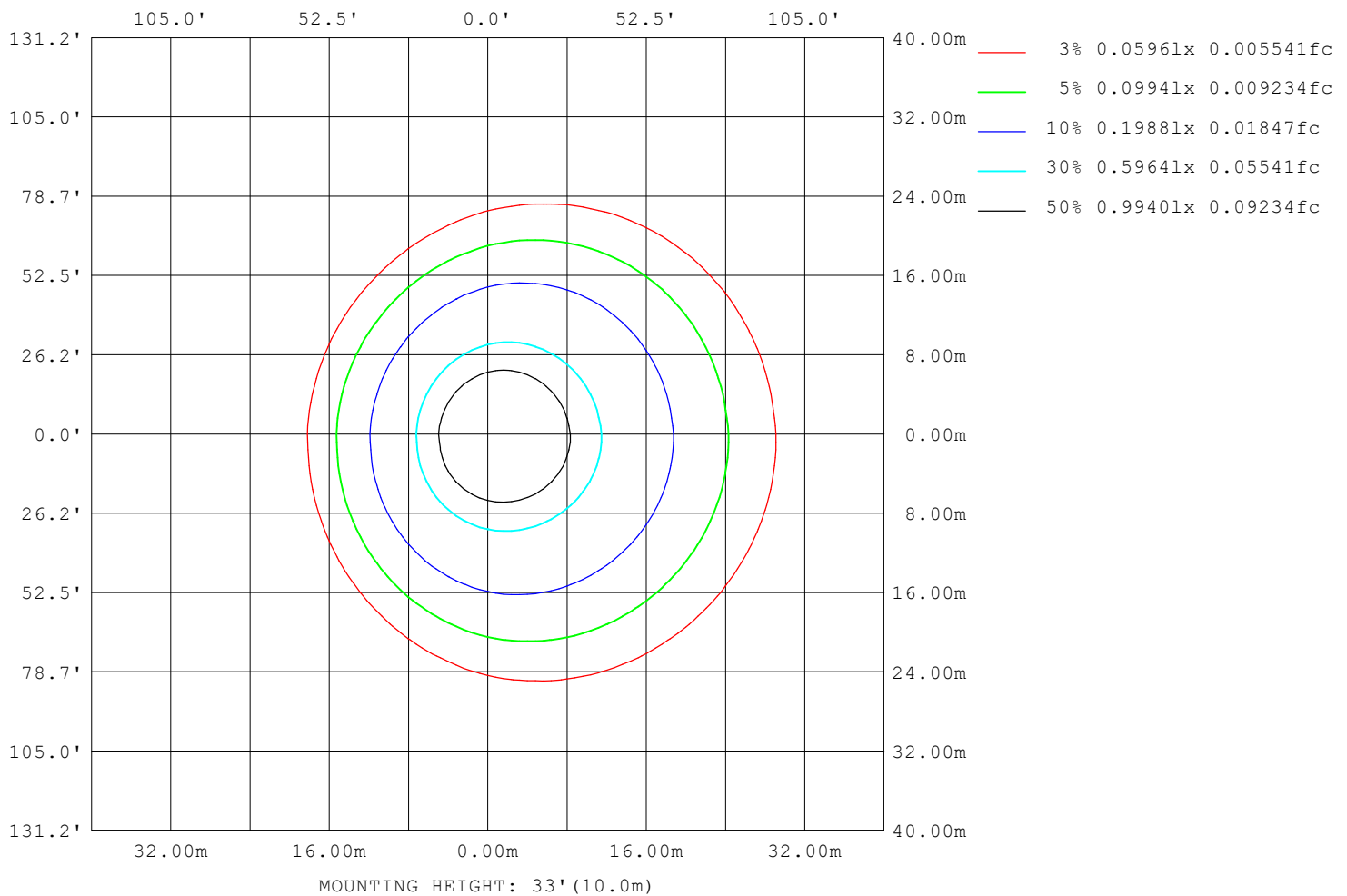
**Note:** The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 11 November 2022

γ Range: 0 - 140DEG  
 γ Interval: 2.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
 Humidity: 65.0%  
 Test Distance: 6.265m [K=1.0000]  
 Remarks:

**ISOLUX DIAGRAM**

NAME: 93M20TLB1030/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: sphere	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 11 November 2022

γ Range: 0 - 140DEG  
 γ Interval: 2.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
 Humidity: 65.0%  
 Test Distance: 6.265m [K=1.0000]  
 Remarks:

### LED Avg.L Report

NAME: 93M20TLB1030/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: sphere	Shielding Angle:

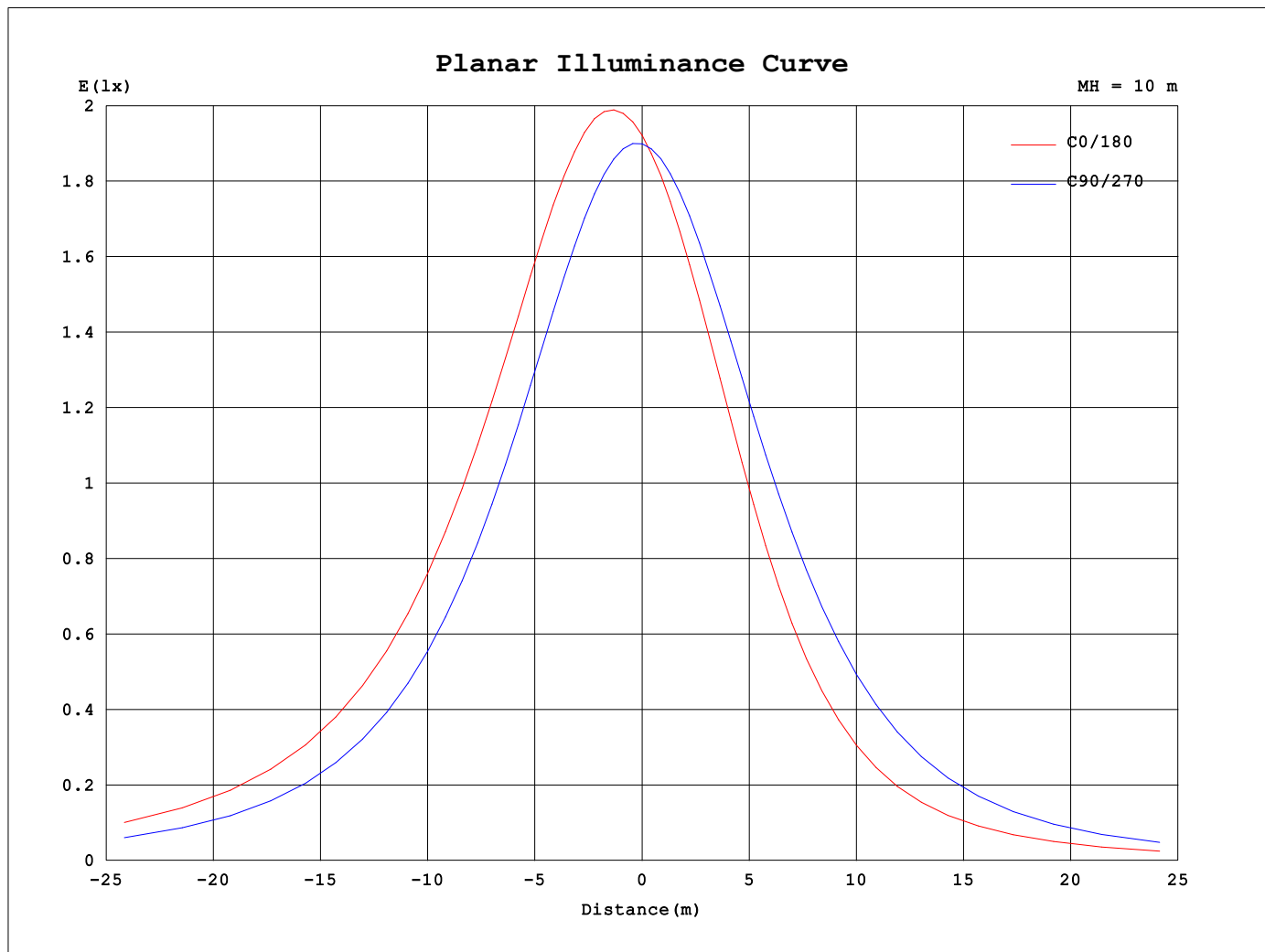
AvgL	cd/m2
L_0~180 (65) av	386870
L_0~180 (75) av	549171
L_0~180 (85) av	1366231
L_90~270 (65) av	347274
L_90~270 (75) av	442320
L_90~270 (85) av	1009982
L_45 (65) av	364353
L_45 (75) av	496814
L_45 (85) av	1191979

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:11 November 2022

γ Range: 0 - 140DEG  
γ Interval: 2.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

# Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 11 November 2022

$\gamma$  Range: 0 - 140DEG  
 $\gamma$  Interval: 2.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
 Humidity: 65.0%  
 Test Distance: 6.265m [K=1.0000]  
 Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: 93M20TLB1030/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: sphere	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190
5	198	199	199	198	198	198	198	198	197	197	196	196	195	195	194	193	193	192	191
10	206	206	206	206	206	205	205	204	203	202	201	200	199	198	197	195	194	192	191
15	212	213	212	212	212	211	210	209	208	207	205	204	202	200	198	196	193	192	189
20	216	217	217	217	216	216	214	213	211	210	207	205	203	200	197	195	192	189	187
25	219	220	220	219	219	218	217	215	213	211	208	205	202	199	196	192	189	186	183
30	220	221	221	220	220	219	217	215	213	210	207	203	200	196	192	189	185	182	178
35	219	220	220	220	219	218	215	213	210	207	203	200	196	192	188	184	180	176	172
40	217	218	218	218	216	215	212	210	206	203	199	195	191	187	183	179	174	170	165
45	213	214	214	213	212	210	207	204	201	197	193	189	185	181	176	172	167	163	157
50	207	208	208	207	206	204	200	198	194	190	186	182	178	174	169	164	159	154	148
55	200	201	200	200	198	196	193	190	186	183	178	174	170	165	160	156	150	145	138
60	192	193	192	192	190	188	185	182	178	174	170	166	161	157	151	146	139	134	127
65	183	184	184	183	181	179	176	173	169	165	160	157	151	146	140	135	128	122	115
70	174	175	174	174	172	170	166	163	159	155	150	146	140	135	129	123	116	110	103
75	164	165	164	164	161	160	156	153	148	144	139	134	128	123	117	111	104	98.1	91.4
80	152	153	153	152	150	148	144	141	136	132	127	122	116	111	104	98.6	91.9	86.4	80.5
85	139	141	140	140	137	135	131	128	123	120	114	109	103	98.4	92.2	86.8	80.9	75.5	70.3
90	125	127	126	126	123	122	118	115	110	106	101	96.8	91.1	86.5	81.0	75.9	70.7	66.0	61.3
95	110	112	111	111	109	107	104	101	96.8	93.4	88.5	84.7	79.9	75.5	70.7	66.3	62.0	58.0	51.1
100	95.7	97.3	96.6	96.6	94.7	93.4	90.3	88.1	84.5	81.3	77.4	73.6	69.6	65.9	62.0	58.5	55.1	44.6	23.3
105	82.5	83.5	83.4	83.1	81.8	80.5	78.2	76.0	73.1	70.4	67.1	64.1	60.8	57.8	54.8	52.0	46.5	35.0	15.2
110	70.6	71.5	71.3	71.2	70.2	69.1	67.3	65.6	63.3	61.1	58.5	56.1	53.5	51.2	48.8	45.1	38.6	29.4	22.4
115	60.7	61.4	61.3	61.2	60.5	59.7	58.3	57.0	55.1	53.5	51.5	49.5	47.5	45.6	42.8	38.7	32.8	25.5	21.5
120	52.7	53.2	53.1	53.1	52.5	52.0	50.9	49.9	48.5	47.1	45.6	44.1	42.3	40.3	37.3	33.4	28.5	22.9	20.0
125	46.2	46.6	46.6	46.5	46.1	45.7	44.8	44.1	42.9	41.9	40.6	39.3	37.5	35.4	32.6	29.1	25.0	20.8	18.5
130	40.8	41.1	41.1	41.1	40.7	40.4	39.7	39.1	38.2	37.3	36.2	34.9	33.1	31.1	28.5	25.6	22.2	19.1	17.1
135	36.2	36.5	36.4	36.4	36.2	35.9	35.3	34.8	34.0	33.2	32.1	30.8	29.2	27.4	25.1	22.6	19.9	17.5	15.8
140	32.1	32.3	32.4	32.3	32.1	31.9	31.4	30.9	30.2	29.4	28.4	27.2	25.7	24.1	22.2	20.1	17.9	16.1	14.6
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG

C Interval: 5.0DEG

Test Speed: HIGH

Temperature:25.3°C

Operators:

Test Date:11 November 2022

γ Range: 0 - 140DEG

γ Interval: 2.5DEG

Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456

Humidity:65.0%

Test Distance:6.265m [K=1.0000]

Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: 93M20TLB1030/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: sphere	Shielding Angle:

Table--2

UNIT: cd

C (DEG) γ (DEG)	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185
0	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190
5	190	190	189	188	188	187	186	186	185	185	184	184	183	183	183	182	182	182	182
10	189	188	187	185	184	183	181	180	179	178	177	176	175	175	174	173	173	173	173
15	187	185	183	181	179	178	176	174	172	171	169	168	167	166	165	164	164	163	163
20	184	182	179	176	174	172	169	167	165	163	161	159	158	156	155	153	153	153	152
25	180	177	174	170	168	164	162	159	156	153	151	149	147	145	143	142	141	140	140
30	175	171	167	164	160	156	153	149	147	143	140	137	135	132	131	129	128	127	126
35	168	164	160	156	152	147	143	139	135	131	128	124	122	119	117	115	114	113	112
40	161	156	152	146	142	137	132	127	123	119	115	111	109	105	103	101	99.9	99.1	98.1
45	153	147	142	136	131	125	120	115	111	106	102	97.8	95.1	91.8	89.8	87.8	86.4	85.6	85.0
50	143	136	131	125	119	113	108	102	97.7	92.6	89.1	85.4	82.3	79.6	77.4	75.5	74.2	73.4	72.9
55	132	125	119	113	107	100	95.4	89.6	85.3	80.8	77.2	73.7	70.9	68.5	66.5	64.9	63.7	63.0	62.6
60	121	113	107	100	94.7	88.7	83.5	78.4	74.1	70.0	66.7	63.7	61.3	59.2	57.6	56.1	55.2	54.6	54.2
65	109	101	95.3	88.8	83.1	77.5	72.6	68.1	64.3	60.8	58.0	55.5	53.4	51.6	50.2	49.1	48.2	47.7	47.4
70	96.9	89.6	83.7	77.8	72.5	67.5	63.3	59.4	56.2	53.2	50.8	48.7	47.0	45.5	44.2	43.2	42.5	42.0	41.7
75	85.3	78.9	73.3	67.9	63.3	59.1	55.5	52.2	49.5	47.0	44.9	43.1	41.6	40.2	39.2	38.3	37.7	37.2	37.0
80	74.6	69.0	64.1	59.6	55.7	52.1	49.0	46.3	43.9	41.7	40.0	38.4	37.0	35.8	34.9	34.1	33.5	33.0	32.8
85	65.2	60.5	56.4	52.6	49.3	46.3	43.7	41.3	39.2	37.3	35.7	34.2	33.0	31.9	31.0	30.3	29.7	29.3	29.1
90	57.2	53.4	50.0	46.8	44.0	41.4	39.1	37.0	35.2	33.4	31.9	30.6	29.4	28.4	27.6	26.9	26.3	25.9	25.7
95	45.5	46.7	44.5	41.8	39.4	37.2	35.1	33.2	31.5	29.9	28.6	27.3	26.2	25.2	24.4	23.7	23.2	22.8	22.6
100	27.6	36.5	38.2	37.1	35.4	33.5	31.6	29.9	28.3	26.8	25.5	24.3	23.2	22.3	21.5	20.9	20.4	19.9	19.8
105	19.3	27.4	31.1	31.7	31.1	29.8	28.3	26.8	25.3	23.9	22.7	21.5	20.5	19.6	18.8	18.2	17.7	17.3	17.1
110	14.7	20.8	24.6	26.3	26.6	26.0	25.0	23.8	22.5	21.2	20.1	18.9	18.0	17.1	16.4	15.7	15.3	14.9	14.7
115	13.9	16.0	19.4	21.3	22.2	22.1	21.6	20.8	19.8	18.7	17.7	16.6	15.7	14.8	14.1	13.5	13.1	12.7	12.5
120	13.7	12.6	15.3	17.1	18.2	18.5	18.3	17.8	17.1	16.2	15.4	14.4	13.6	12.8	12.1	11.5	11.1	10.7	10.5
125	13.4	10.1	12.1	13.7	14.7	15.1	15.2	14.9	14.5	13.8	13.1	12.4	11.6	10.9	10.3	9.69	9.25	8.90	8.71
130	12.9	9.65	9.62	10.8	11.7	12.2	12.4	12.3	12.1	11.6	11.1	10.4	9.83	9.17	8.60	8.06	7.63	7.29	7.11
135	12.4	9.50	7.60	8.54	9.28	9.74	9.99	9.98	9.85	9.53	9.14	8.66	8.14	7.61	7.08	6.62	6.20	5.87	5.72
140	11.8	9.36	7.16	6.74	7.27	7.68	7.89	7.98	7.89	7.71	7.40	7.05	6.63	6.21	5.75	5.35	4.99	4.70	4.56
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG

C Interval: 5.0DEG

Test Speed: HIGH

Temperature:25.3°C

Operators:

Test Date:11 November 2022

γ Range: 0 - 140DEG

γ Interval: 2.5DEG

Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456

Humidity:65.0%

Test Distance:6.265m [K=1.0000]

Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: 93M20TLB1030/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: sphere	Shielding Angle:

Table--3

UNIT: cd

C (DEG) γ (DEG)	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280
0	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190
5	182	182	182	182	182	183	183	183	184	184	185	185	186	186	187	188	189	189	190
10	173	173	173	173	173	174	175	176	176	177	178	179	181	182	183	184	186	187	188
15	163	163	163	164	164	165	166	167	168	170	171	173	175	176	178	180	182	184	186
20	152	152	153	153	154	155	157	158	160	161	163	165	168	170	172	175	178	180	183
25	140	140	141	141	142	143	146	147	150	152	155	157	160	163	166	169	172	175	179
30	127	126	128	128	130	131	133	135	138	141	144	147	151	154	159	162	166	169	173
35	113	112	114	114	116	118	120	122	126	129	133	136	141	145	150	154	159	163	167
40	98.5	98.2	99.5	100	102	104	107	109	113	116	121	125	130	134	140	144	150	154	160
45	84.9	85.1	86.0	87.0	88.6	90.3	93.3	95.7	99.7	103	108	112	118	122	128	134	140	145	151
50	72.8	73.0	73.7	74.7	76.3	78.2	80.6	83.4	86.8	90.1	94.8	99.1	105	110	116	122	129	134	141
55	62.5	62.6	63.4	64.2	65.6	67.2	69.4	71.9	75.1	78.5	82.5	86.9	92.2	97.0	104	109	116	122	130
60	54.2	54.2	54.9	55.6	56.7	58.1	60.0	62.1	64.9	67.9	71.5	75.6	80.3	85.3	91.2	96.9	104	110	117
65	47.3	47.5	47.9	48.6	49.5	50.8	52.3	54.1	56.5	59.0	62.1	65.6	69.8	74.3	79.6	85.4	91.9	97.6	105
70	41.7	41.8	42.3	42.8	43.6	44.7	46.0	47.6	49.5	51.7	54.3	57.3	60.8	64.7	69.4	74.5	80.6	86.2	92.6
75	37.0	37.0	37.4	37.9	38.7	39.6	40.8	42.1	43.9	45.7	47.9	50.4	53.4	56.7	60.6	65.0	70.4	75.2	81.1
80	32.8	32.9	33.2	33.7	34.4	35.2	36.3	37.5	39.0	40.6	42.6	44.7	47.3	50.1	53.4	57.0	61.4	65.7	70.9
85	29.1	29.2	29.5	29.9	30.5	31.3	32.3	33.5	34.8	36.3	38.1	40.0	42.2	44.6	47.4	50.4	54.1	57.7	62.1
90	25.7	25.8	26.1	26.5	27.1	27.9	28.8	29.8	31.2	32.5	34.1	35.8	37.8	39.9	42.4	44.9	47.8	51.0	54.7
95	22.6	22.7	23.0	23.4	23.9	24.7	25.5	26.6	27.8	29.1	30.5	32.2	34.0	35.8	37.8	36.9	40.5	44.9	48.6
100	19.7	19.8	20.1	20.5	21.0	21.7	22.6	23.6	24.7	25.9	27.3	28.8	30.4	31.3	30.6	23.9	9.23	34.6	43.9
105	17.1	17.2	17.5	17.8	18.4	19.0	19.9	20.8	21.9	23.1	24.3	25.4	26.1	25.7	23.2	16.6	12.2	23.4	30.1
110	14.7	14.8	15.1	15.4	16.0	16.6	17.4	18.3	19.3	20.2	21.1	21.7	21.7	20.4	17.5	12.4	19.4	24.7	32.6
115	12.5	12.6	12.9	13.2	13.7	14.3	15.1	15.9	16.7	17.4	17.9	18.0	17.5	16.0	13.4	11.5	18.0	21.6	28.0
120	10.5	10.6	10.9	11.2	11.7	12.3	12.9	13.6	14.2	14.6	14.8	14.7	14.0	12.5	10.4	11.3	16.7	19.4	24.3
125	8.70	8.78	9.05	9.38	9.84	10.3	10.9	11.3	11.8	12.0	12.0	11.7	11.0	9.73	8.11	11.1	15.4	17.6	21.5
130	7.10	7.17	7.42	7.72	8.12	8.53	8.97	9.30	9.61	9.67	9.62	9.22	8.60	7.58	7.67	10.7	14.1	16.1	19.2
135	5.67	5.76	5.96	6.24	6.56	6.90	7.22	7.48	7.65	7.67	7.54	7.21	6.68	5.94	7.72	10.4	13.1	14.9	17.3
140	4.50	4.56	4.70	4.94	5.17	5.47	5.68	5.89	5.98	5.98	5.84	5.59	5.19	5.65	7.72	9.97	12.2	13.9	15.8
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG

C Interval: 5.0DEG

Test Speed: HIGH

Temperature:25.3°C

Operators:

Test Date:11 November 2022

γ Range: 0 - 140DEG

γ Interval: 2.5DEG

Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456

Humidity:65.0%

Test Distance:6.265m [K=1.0000]

Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: 93M20TLB1030/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: sphere	Shielding Angle:

Table--4

UNIT: cd

C (DEG) γ (DEG)	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355				
0	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190				
5	191	191	192	193	193	194	195	195	196	196	197	197	198	198	198				
10	190	191	193	194	196	197	198	199	201	202	203	204	204	205	206				
15	188	190	192	194	196	199	200	202	204	206	207	209	210	211	212				
20	185	188	191	193	196	199	201	204	206	209	211	213	214	215	216				
25	182	185	188	191	194	198	201	204	207	210	212	214	216	218	219				
30	177	181	184	188	192	195	199	202	206	209	212	214	216	218	219				
35	171	176	180	184	188	192	195	199	203	206	210	213	215	217	219				
40	164	169	174	178	183	187	191	195	199	203	206	209	212	215	216				
45	156	162	167	172	177	181	185	190	193	198	201	204	207	210	212				
50	147	153	158	164	169	174	179	183	187	191	195	198	201	204	206				
55	136	143	148	155	160	166	171	176	180	184	188	191	194	197	199				
60	124	131	137	145	150	157	162	167	172	176	180	184	186	189	191				
65	111	119	125	133	139	146	151	158	162	167	171	175	178	181	183				
70	98.8	106	113	120	127	134	140	147	151	157	161	165	168	171	173				
75	87.1	94.0	100	108	114	122	128	134	140	145	150	155	158	161	163				
80	76.2	82.3	88.3	95.2	101	109	114	121	127	133	137	142	145	149	151				
85	66.7	71.9	77.3	83.4	88.8	95.8	101	108	113	119	124	129	132	136	138				
90	58.5	62.9	67.4	72.7	77.9	83.7	89.1	95.0	99.7	106	110	115	118	122	124				
95	51.8	55.4	59.1	63.5	67.9	72.8	77.5	82.6	87.3	92.2	96.0	101	104	107	109				
100	46.4	49.3	52.3	55.8	59.4	63.4	67.3	71.6	75.6	79.7	83.4	87.3	90.0	93.3	94.8				
105	32.5	34.8	41.0	49.4	52.4	55.6	58.7	62.2	65.4	68.9	71.9	75.1	77.7	80.2	81.9				
110	37.3	39.9	41.7	37.0	36.5	42.7	48.8	51.8	53.8	58.3	62.2	64.8	66.8	68.8	70.1				
115	32.6	35.8	37.8	39.7	41.6	41.2	38.9	39.4	40.1	38.5	39.5	55.8	57.8	59.4	60.4				
120	28.5	31.7	34.0	35.8	37.5	39.3	41.0	42.8	44.4	44.1	36.7	36.0	47.8	51.7	52.5				
125	25.1	28.1	30.3	32.3	33.8	35.3	36.7	38.3	39.7	41.0	42.2	36.8	34.4	43.2	46.1				
130	22.2	24.9	27.0	28.9	30.4	31.8	33.0	34.4	35.6	36.7	37.7	38.7	33.6	31.4	40.2				
135	19.9	22.1	24.1	25.8	27.3	28.6	29.7	30.9	31.9	32.8	33.6	34.5	35.1	29.7	30.6				
140	17.9	19.8	21.5	23.0	24.4	25.6	26.7	27.6	28.5	29.3	30.0	30.7	31.3	31.4	25.2				
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

C Range: 0 - 360DEG

C Interval: 5.0DEG

Test Speed: HIGH

Temperature:25.3°C

Operators:

Test Date:11 November 2022

γ Range: 0 - 140DEG

γ Interval: 2.5DEG

Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456

Humidity:65.0%

Test Distance:6.265m [K=1.0000]

Remarks: