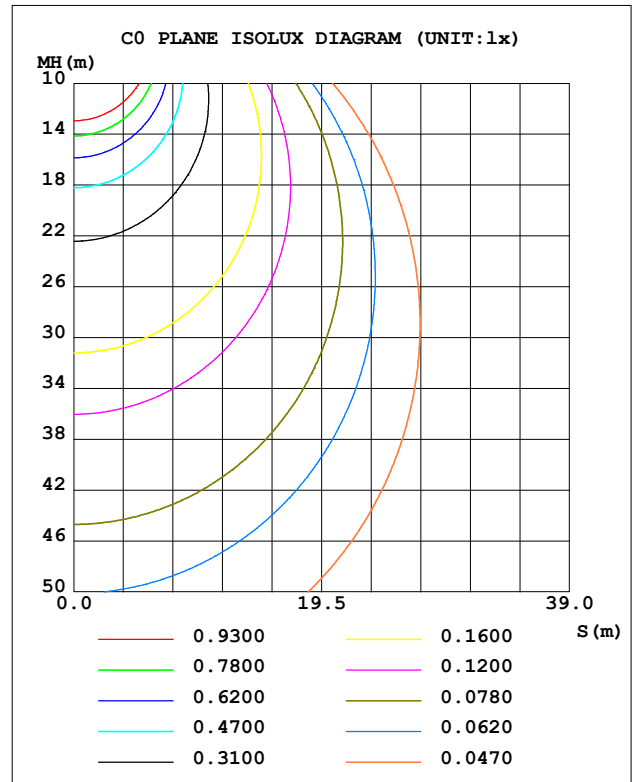
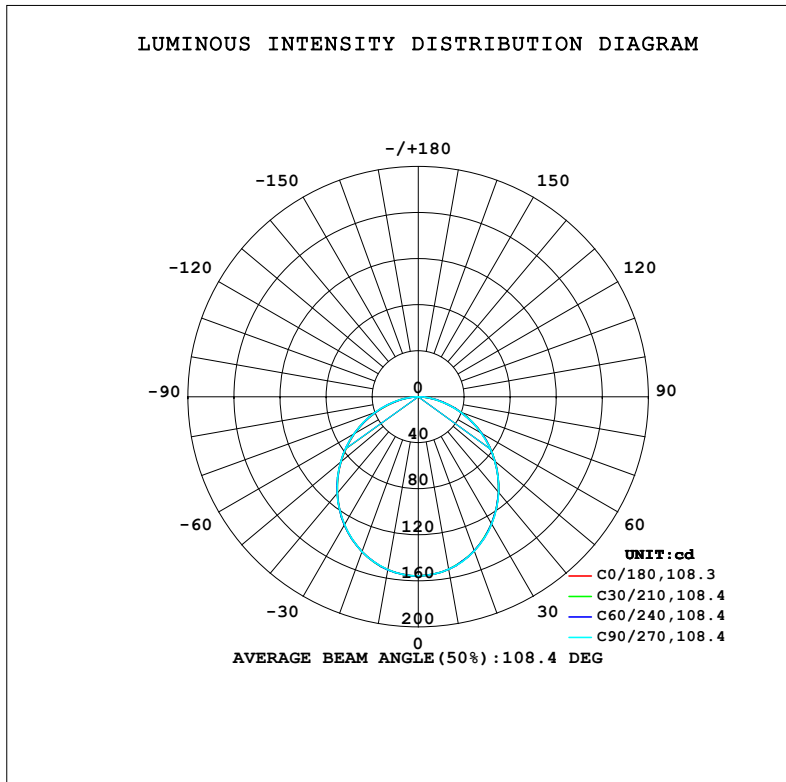


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 99LED960WW	TYPE: 99LED960WW	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99LED960WW	Imax (cd)	155.6	S/MH (C0/180)	1.23
NOMINAL POWER (W)	6	LOR (%)	83.4	S/MH (C90/270)	1.23
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	425.27	η UP, DN (C0-180)	0.0, 41.5
NOMINAL FLUX (lm)	510	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 41.9
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	83.4	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 10 August 2022

γ Range: 0 - 90DEG
 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:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	152.1	152.1	152.3	152.4	152.6	152.6	152.5	152.3	0- 10	14.70	14.70	3.46,2.88
20	142.4	142.4	142.7	143.0	143.2	143.3	143.1	142.7	10- 20	41.83	56.53	13.3,11.1
30	127.4	127.3	127.7	128.1	128.4	128.5	128.3	127.9	20- 30	62.64	119.2	28,23.4
40	108.6	108.4	108.7	109.1	109.4	109.7	109.5	109.2	30- 40	74.39	193.6	45.5,38
50	87.22	86.91	87.02	87.28	87.62	88.00	88.00	87.78	40- 50	76.02	269.6	63.4,52.9
60	64.06	63.57	63.43	63.52	63.87	64.39	64.60	64.58	50- 60	67.86	337.5	79.4,66.2
70	39.90	39.27	38.86	38.72	39.05	39.71	40.16	40.35	60- 70	51.25	388.7	91.4,76.2
80	16.77	16.16	15.61	15.33	15.55	16.23	16.80	17.09	70- 80	29.09	417.8	98.2,81.9
90	0.2120	0.2109	0.2097	0.2097	0.1767	0.1769	0.1824	0.1811	80- 90	7.472	425.3	100,83.4
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 232.01 lm

%lum = 54.6%
%lamp = 45.5%

Conical surface Flux(130deg): 365.6 lm

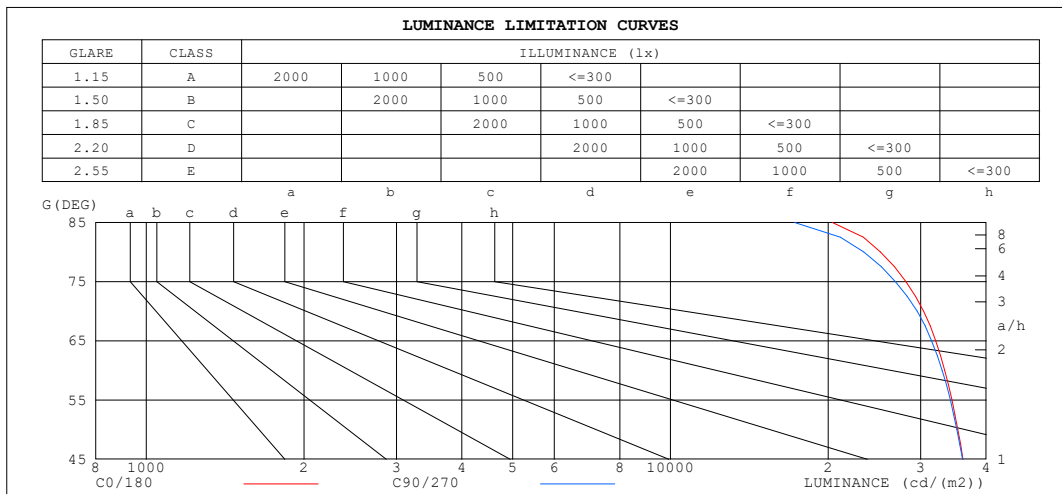
%lum = 86.0%
%lamp = 71.7%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:10 August 2022

γ Range: 0 - 90DEG
 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:

LUMINANCE LIMITATION CURVES

NAME: 99LED960WW	TYPE: 99LED960WW	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	20371	17255
80	25141	23367
75	28114	26872
70	30368	29529
65	32055	31488
60	33353	32974
55	34414	34176
50	35323	35185
45	36147	36071

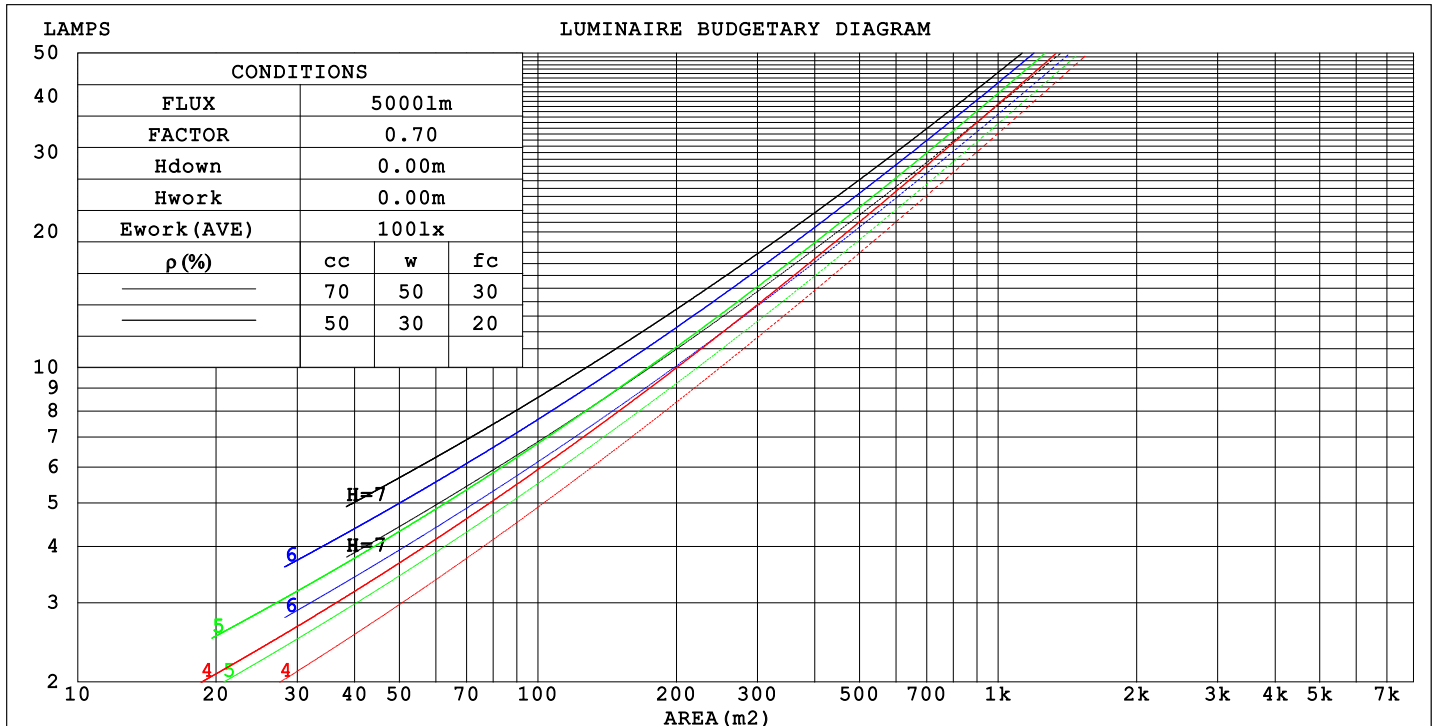
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 10 August 2022

γ Range: 0 - 90DEG
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: 99LED960WW	TYPE: 99LED960WW	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	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			Coefficients of Utilization(CU)												
0.0	.99	.99	.99	.97	.97	.97	.93	.93	.93	.89	.89	.89	.85	.85	.85	.83
1.0	.87	.83	.80	.85	.82	.79	.81	.79	.76	.78	.76	.74	.75	.73	.72	.70
2.0	.76	.70	.65	.74	.69	.64	.71	.67	.63	.68	.65	.61	.66	.63	.60	.58
3.0	.66	.60	.54	.65	.59	.54	.63	.57	.53	.60	.56	.52	.58	.54	.51	.49
4.0	.59	.52	.46	.58	.51	.46	.56	.50	.45	.54	.49	.44	.52	.48	.44	.42
5.0	.53	.45	.40	.52	.45	.39	.50	.44	.39	.48	.43	.39	.47	.42	.38	.36
6.0	.47	.40	.35	.47	.40	.34	.45	.39	.34	.44	.38	.34	.42	.37	.34	.32
7.0	.43	.36	.31	.42	.35	.31	.41	.35	.30	.40	.34	.30	.39	.34	.30	.28
8.0	.39	.32	.27	.39	.32	.27	.38	.31	.27	.37	.31	.27	.36	.31	.27	.25
9.0	.36	.29	.25	.36	.29	.25	.35	.29	.24	.34	.28	.24	.33	.28	.24	.23
10.0	.33	.27	.22	.33	.27	.22	.32	.26	.22	.31	.26	.22	.31	.26	.22	.21



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 10 August 2022

γ Range: 0 - 90DEG
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: 99LED960WW	TYPE: 99LED960WW	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	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	.255	.145	.046	.249	.142	.045	.238	.137	.044	.228	.132	.042	.219	.127	.041	
2.0	.241	.132	.040	.236	.130	.040	.226	.126	.039	.217	.122	.038	.209	.118	.037	
3.0	.223	.119	.036	.219	.117	.035	.210	.114	.035	.202	.111	.034	.195	.108	.033	
4.0	.206	.107	.031	.202	.106	.031	.194	.103	.031	.187	.101	.030	.181	.098	.030	
5.0	.191	.097	.028	.187	.096	.028	.180	.094	.028	.174	.092	.027	.168	.090	.027	
6.0	.177	.089	.025	.174	.088	.025	.168	.086	.025	.162	.084	.025	.157	.083	.025	
7.0	.165	.081	.023	.162	.081	.023	.157	.079	.023	.152	.078	.023	.147	.076	.022	
8.0	.154	.075	.021	.151	.075	.021	.147	.073	.021	.142	.072	.021	.138	.071	.021	
9.0	.144	.070	.019	.142	.069	.019	.138	.068	.019	.134	.067	.019	.130	.066	.019	
10.0	.136	.065	.018	.134	.065	.018	.130	.064	.018	.126	.063	.018	.123	.062	.018	

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	.159	.159	.159	.136	.136	.136	.093	.093	.093	.053	.053	.053	.017	.017	.017	
1.0	.150	.130	.112	.128	.112	.097	.088	.077	.067	.051	.044	.039	.016	.014	.013	
2.0	.143	.110	.082	.123	.095	.071	.084	.066	.049	.049	.038	.029	.016	.012	.009	
3.0	.137	.095	.062	.117	.082	.054	.081	.057	.038	.046	.033	.022	.015	.011	.007	
4.0	.130	.084	.049	.112	.073	.042	.077	.051	.030	.045	.030	.018	.014	.010	.006	
5.0	.124	.075	.040	.107	.065	.034	.073	.046	.024	.043	.027	.014	.014	.009	.005	
6.0	.118	.068	.033	.102	.059	.029	.070	.042	.020	.041	.024	.012	.013	.008	.004	
7.0	.113	.063	.028	.097	.054	.024	.067	.038	.017	.039	.022	.010	.013	.007	.003	
8.0	.107	.058	.024	.092	.050	.021	.064	.035	.015	.037	.021	.009	.012	.007	.003	
9.0	.102	.054	.021	.088	.047	.018	.061	.033	.013	.036	.019	.008	.012	.006	.003	
10.0	.097	.050	.019	.084	.044	.016	.058	.031	.012	.034	.018	.007	.011	.006	.002	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:10 August 2022

γ Range: 0 - 90DEG
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: 99LED960WW					TYPE: 99LED960WW			WEIGHT: 1			
SPEC.:					DIM.: F100			SERIAL No.: 0			
MFR.: Elmark Industries JSC					SUR.: circular			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	27.5	29.0	27.7	29.2	29.4	27.4	28.9	27.7	29.1	29.3
	3H	29.0	30.4	29.3	30.6	30.8	28.9	30.3	29.2	30.5	30.7
	4H	29.5	30.9	29.9	31.1	31.4	29.4	30.8	29.8	31.0	31.3
	6H	30.0	31.2	30.3	31.5	31.8	29.8	31.1	30.2	31.3	31.6
	8H	30.1	31.3	30.4	31.6	31.9	29.9	31.1	30.3	31.4	31.7
	12H	30.2	31.3	30.5	31.6	31.9	30.0	31.1	30.3	31.4	31.7
4H	2H	28.0	29.4	28.4	29.6	29.9	28.0	29.3	28.3	29.6	29.9
	3H	29.7	30.9	30.1	31.2	31.5	29.7	30.8	30.0	31.1	31.4
	4H	30.4	31.5	30.8	31.8	32.2	30.3	31.4	30.7	31.7	32.1
	6H	31.0	31.9	31.4	32.3	32.7	30.9	31.8	31.2	32.1	32.5
	8H	31.2	32.1	31.6	32.4	32.8	31.0	31.9	31.4	32.3	32.6
	12H	31.3	32.1	31.7	32.5	32.9	31.1	31.9	31.5	32.3	32.7
8H	4H	30.7	31.6	31.1	31.9	32.3	30.6	31.5	31.0	31.9	32.2
	6H	31.4	32.1	31.8	32.5	32.9	31.3	32.0	31.7	32.4	32.8
	8H	31.6	32.3	32.1	32.7	33.2	31.5	32.1	31.9	32.6	33.0
	12H	31.8	32.4	32.3	32.8	33.3	31.6	32.2	32.1	32.6	33.1
12H	4H	30.7	31.5	31.1	31.9	32.3	30.6	31.4	31.0	31.8	32.2
	6H	31.4	32.1	31.9	32.5	33.0	31.3	32.0	31.8	32.4	32.8
	8H	31.7	32.3	32.2	32.7	33.2	31.6	32.1	32.1	32.6	33.1
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H		+ 0.2 / - 0.2					+ 0.2 / - 0.2				
1.5H		+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H		+ 0.2 / - 0.2					+ 0.2 / - 0.2				

CIE Pub.117, 510.0 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.3)
Area: 0.0038465 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:10 August 2022

γ Range: 0 - 90DEG
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: 99LED960WW	TYPE: 99LED960WW	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	Shielding Angle:

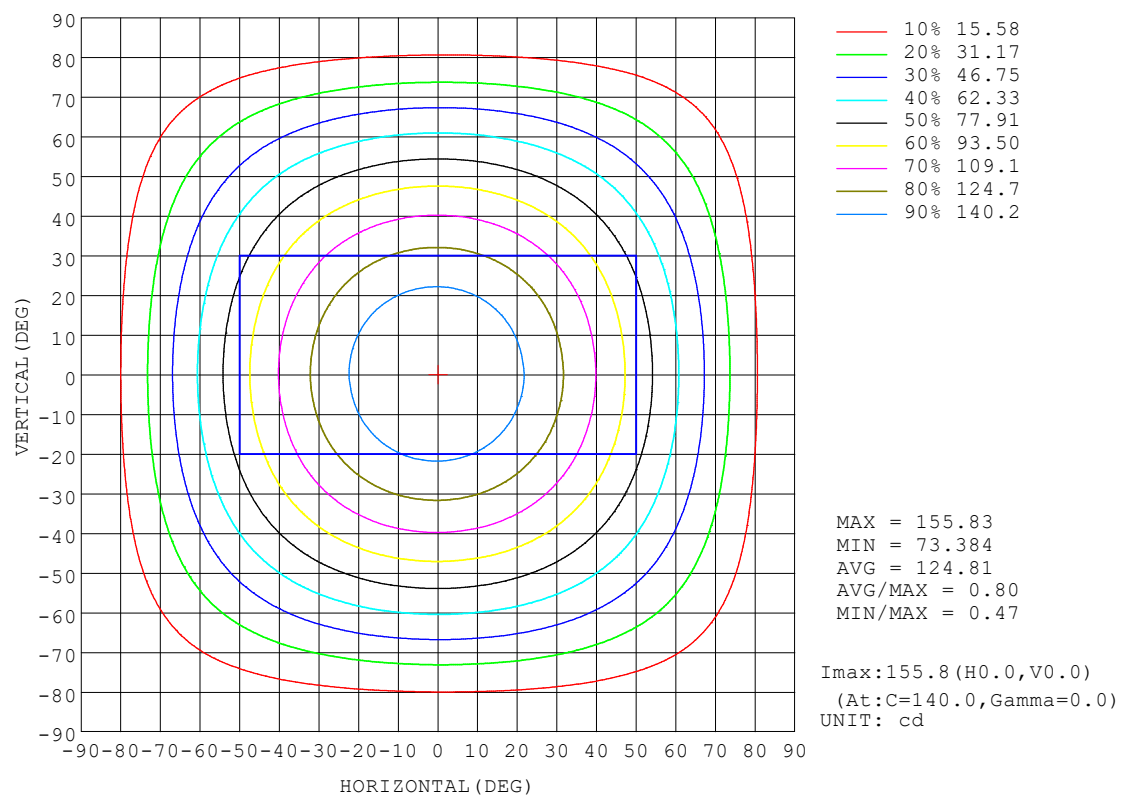
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	48	39	33	48	39	33	47	38	33	27
0.80	57	47	41	56	47	41	54	46	41	35
1.00	64	55	49	63	54	48	61	55	48	42
1.25	70	61	55	68	60	55	66	59	54	48
1.50	74	66	60	72	65	59	70	63	59	52
2.00	79	72	67	78	71	66	75	70	65	59
2.50	83	76	71	81	75	71	78	73	69	62
3.00	85	80	75	84	78	74	80	76	73	65
4.00	89	84	80	87	83	79	83	80	77	69
5.00	91	87	83	89	85	82	85	82	80	72
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 10 August 2022

γ Range: 0 - 90DEG
 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: 99LED960WW	TYPE: 99LED960WW	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	Shielding Angle:

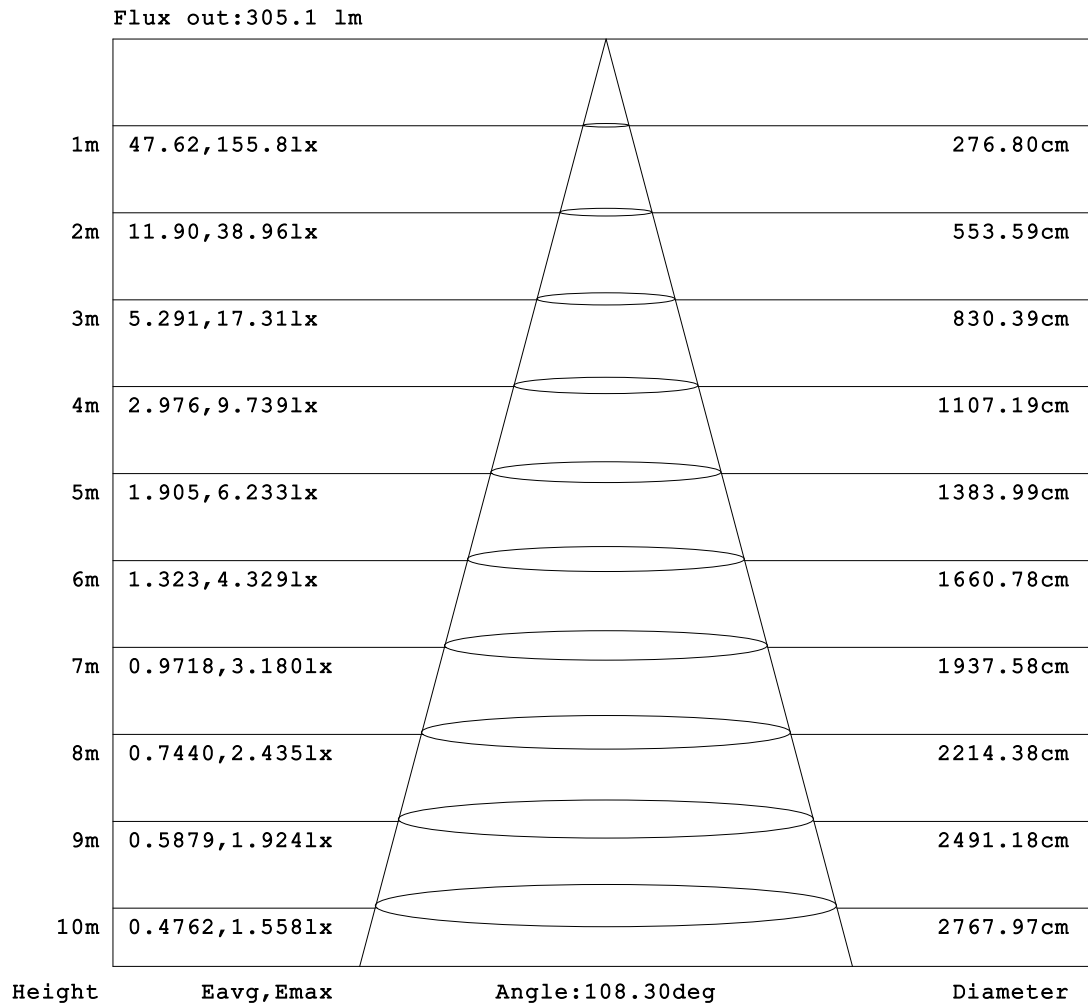


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:10 August 2022

γ Range: 0 - 90DEG
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: 99LED960WW	TYPE: 99LED960WW	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	Shielding Angle:



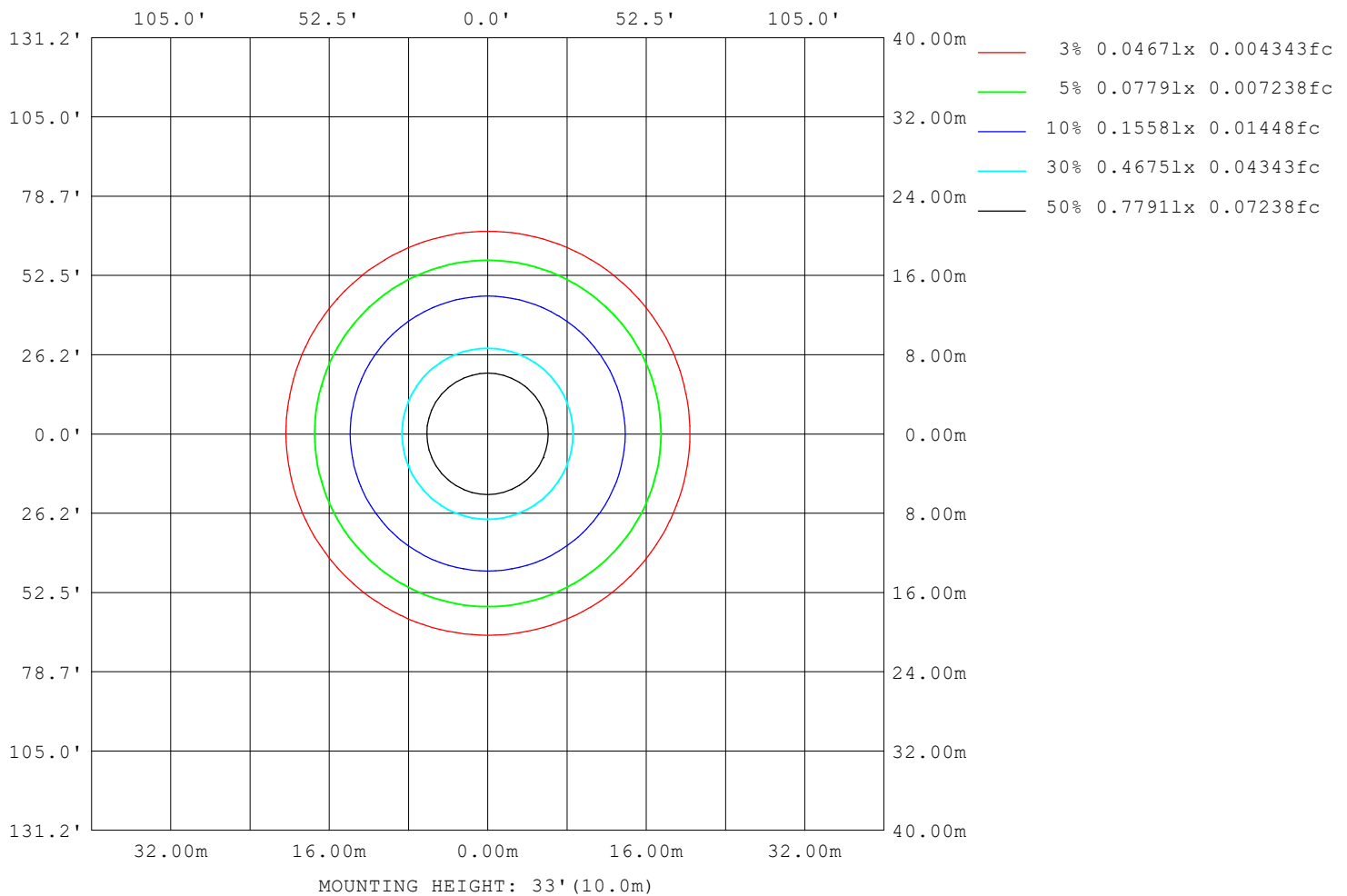
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature:25.3°C
 Operators:
 Test Date:10 August 2022

γ Range: 0 - 90DEG
 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: 99LED960WW	TYPE: 99LED960WW	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 10 August 2022

γ Range: 0 - 90DEG
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: 99LED960WW	TYPE: 99LED960WW	WEIGHT: 1
SPEC.:	DIM.: F100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	Shielding Angle:

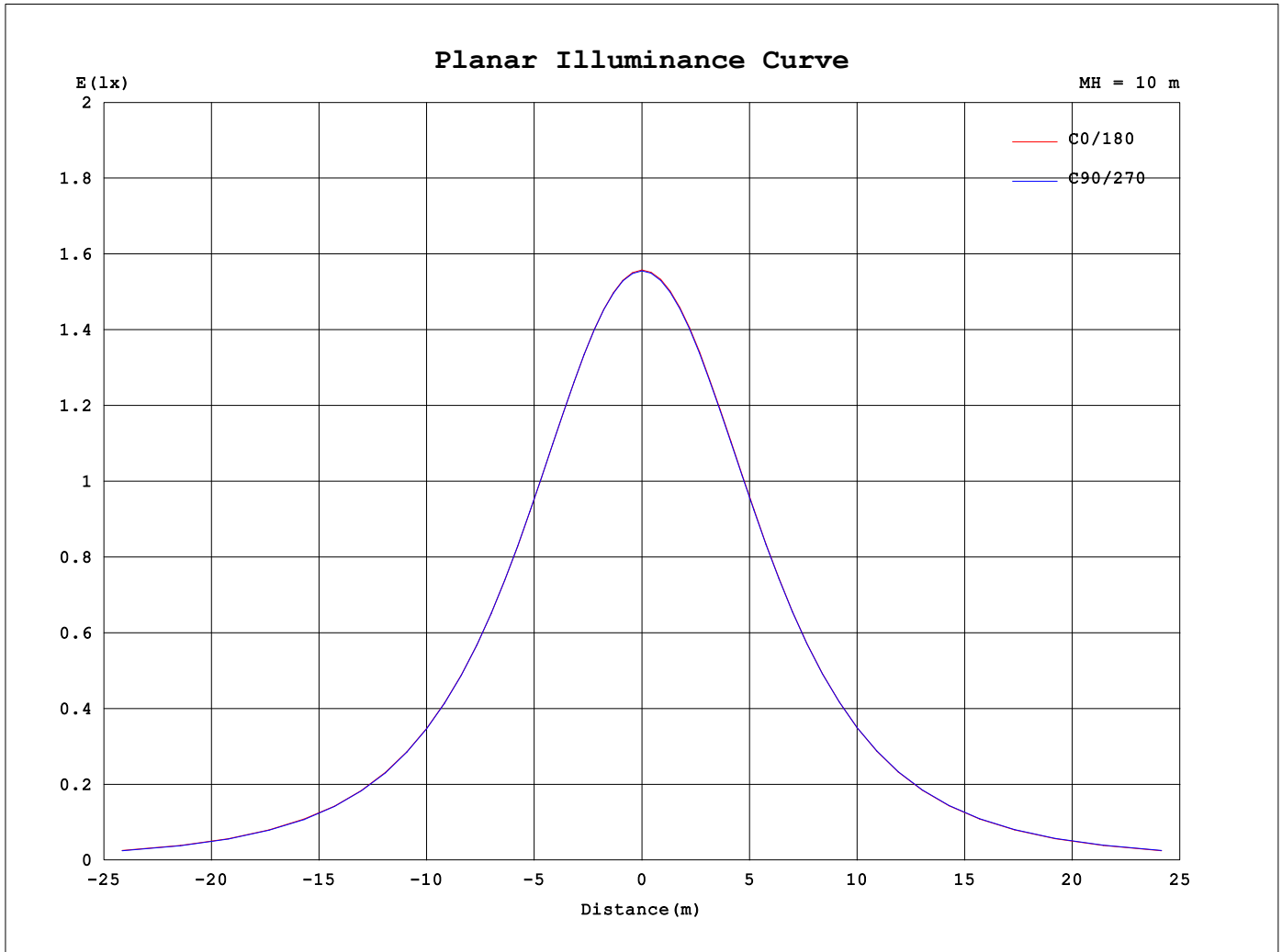
AvgL	cd/m2
L_0~180 (65) av	31850
L_0~180 (75) av	27521
L_0~180 (85) av	18463
L_90~270 (65) av	31879
L_90~270 (75) av	27552
L_90~270 (85) av	18761
L_45 (65) av	31878
L_45 (75) av	27556
L_45 (85) av	18627

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:10 August 2022

γ Range: 0 - 90DEG
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: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 10 August 2022

γ Range: 0 - 90DEG
 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:

```

γ Range: 0 - 90DEG
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:

```

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γ Range: 0 - 90DEG
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:

```