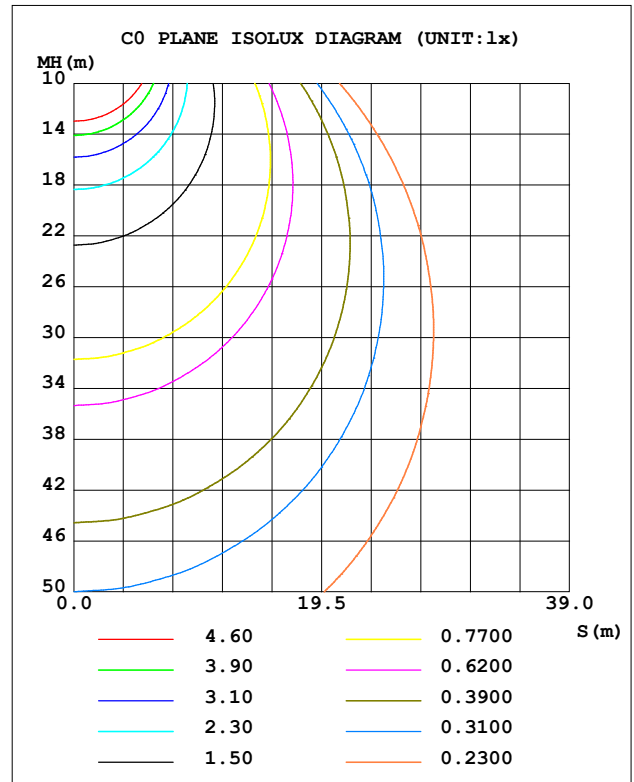
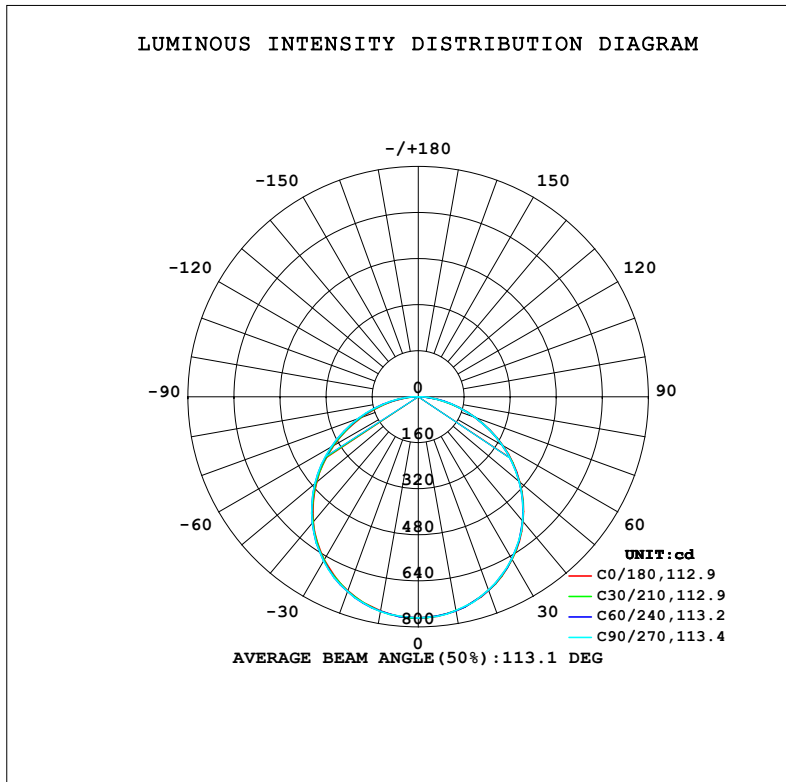


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 99LED966WW	TYPE: 99LED966WW	WEIGHT: 1
SPEC.:	DIM.: F 280	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99LED966WW	I _{max} (cd)	769.8	S/MH (C0/180)	1.26
NOMINAL POWER (W)	28	LOR (%)	88.9	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	2223.2	η UP, DN (C0-180)	0.0, 44.0
NOMINAL FLUX (lm)	2500	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 44.9
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	88.9	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 15 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	755.5	755.9	754.3	754.6	755.6	758.2	757.2	756.3	0- 10	72.78	72.78	3.27, 2.91
20	716.3	716.4	714.5	715.4	717.7	720.0	719.4	719.1	10- 20	208.8	281.6	12.7, 11.3
30	652.9	652.1	650.6	650.8	653.5	657.7	658.7	655.7	20- 30	317.4	598.9	26.9, 24
40	566.9	564.6	564.2	564.5	567.2	572.1	573.4	571.5	30- 40	383.8	982.7	44.2, 39.3
50	461.2	458.5	457.3	457.1	460.7	466.5	468.9	466.5	40- 50	398.8	1382	62.1, 55.3
60	340.3	337.7	336.7	335.5	339.1	346.0	350.1	346.2	50- 60	360.4	1742	78.4, 69.7
70	211.5	209.9	209.7	207.1	210.1	218.0	222.9	218.3	60- 70	274.7	2017	90.7, 80.7
80	90.05	89.69	89.69	87.24	88.04	96.17	100.5	96.26	70- 80	159.7	2176	97.9, 87.1
90	1.607	1.307	1.317	1.303	1.121	1.960	3.651	3.131	80- 90	46.80	2223	100, 88.9
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): 1183.7 lm

%lum = 53.2%

%lamp = 47.3%

Conical surface Flux(130deg): 1892.5 lm

%lum = 85.1%

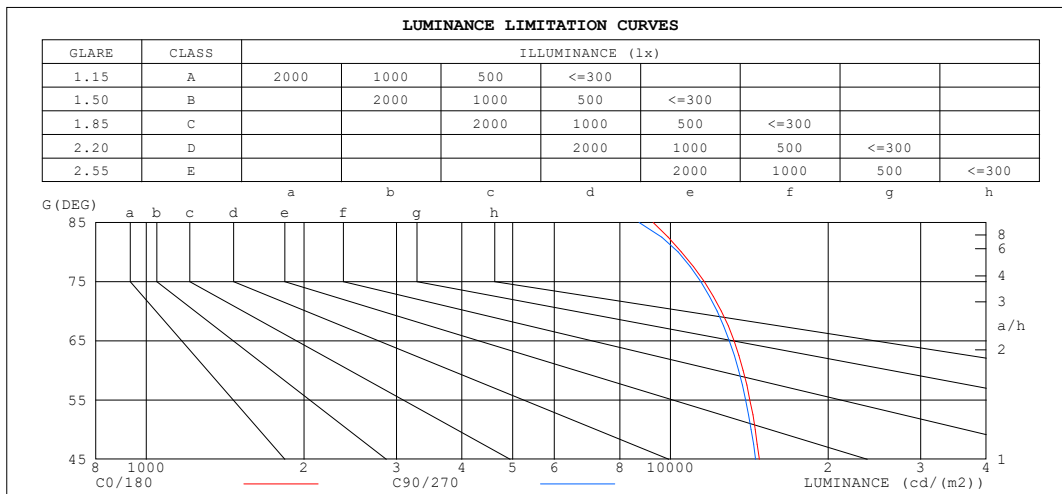
%lamp = 75.7%

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature:25.3°C
 Operators:
 Test Date:15 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: 99LED966WW	TYPE: 99LED966WW	WEIGHT: 1
SPEC.:	DIM.: F 280	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	9267	8706
80	10485	10343
75	11594	11420
70	12505	12275
65	13231	12949
60	13761	13486
55	14174	13915
50	14507	14247
45	14776	14523

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 15 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:

```

WEC AND CCEC

NAME: 99LED966WW	TYPE: 99LED966WW	WEIGHT: 1
SPEC.:	DIM.: F 280	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	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	.279	.158	.050	.272	.155	.049	.260	.149	.048	.250	.144	.046	.240	.139	.045	
2.0	.261	.143	.044	.256	.141	.043	.245	.136	.042	.236	.132	.041	.227	.128	.040	
3.0	.242	.129	.038	.237	.127	.038	.227	.123	.037	.219	.120	.037	.211	.117	.036	
4.0	.223	.116	.034	.218	.114	.034	.210	.111	.033	.203	.109	.033	.196	.106	.032	
5.0	.206	.105	.030	.202	.104	.030	.195	.101	.030	.188	.099	.029	.182	.097	.029	
6.0	.191	.096	.027	.187	.095	.027	.181	.093	.027	.175	.091	.027	.169	.089	.026	
7.0	.177	.088	.025	.174	.087	.025	.169	.085	.025	.163	.084	.024	.158	.082	.024	
8.0	.166	.081	.023	.163	.080	.023	.158	.079	.023	.153	.077	.022	.148	.076	.022	
9.0	.155	.075	.021	.153	.074	.021	.148	.073	.021	.144	.072	.021	.140	.071	.020	
10.0	.146	.070	.019	.144	.069	.019	.140	.068	.019	.136	.067	.019	.132	.066	.019	

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	.169	.169	.169	.145	.145	.145	.099	.099	.099	.057	.057	.057	.018	.018	.018	
1.0	.161	.139	.119	.137	.119	.103	.094	.082	.071	.054	.047	.041	.017	.015	.013	
2.0	.153	.117	.087	.131	.101	.075	.090	.070	.052	.052	.041	.031	.017	.013	.010	
3.0	.147	.102	.066	.126	.088	.057	.086	.061	.040	.050	.036	.024	.016	.012	.008	
4.0	.140	.090	.052	.120	.078	.045	.082	.054	.032	.048	.032	.019	.015	.010	.006	
5.0	.133	.081	.042	.114	.070	.036	.079	.049	.026	.046	.029	.015	.015	.009	.005	
6.0	.127	.073	.035	.109	.063	.030	.075	.044	.021	.044	.026	.013	.014	.009	.004	
7.0	.121	.067	.029	.104	.058	.026	.072	.041	.018	.042	.024	.011	.013	.008	.004	
8.0	.115	.062	.025	.099	.054	.022	.068	.038	.016	.040	.022	.009	.013	.007	.003	
9.0	.109	.057	.022	.094	.050	.020	.065	.035	.014	.038	.021	.008	.012	.007	.003	
10.0	.104	.054	.020	.090	.047	.017	.062	.033	.012	.036	.019	.007	.012	.006	.002	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:15 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: 99LED966WW					TYPE: 99LED966WW					WEIGHT: 1				
SPEC.:					DIM.: F 280					SERIAL No.: 0				
MFR.: Elmark Industries JSC					SUR.: Round					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	18.9	20.4	19.2	20.6	20.8	18.8	20.3	19.1	20.5	20.7				
3H	20.4	21.8	20.7	22.0	22.3	20.3	21.7	20.6	22.0	22.2				
4H	21.0	22.3	21.3	22.6	22.8	20.9	22.3	21.2	22.5	22.8				
6H	21.4	22.7	21.8	23.0	23.2	21.3	22.6	21.7	22.9	23.2				
8H	21.6	22.8	21.9	23.1	23.4	21.5	22.7	21.8	23.0	23.3				
12H	21.6	22.8	22.0	23.1	23.4	21.5	22.7	21.9	23.0	23.3				
4H 2H	19.5	20.8	19.8	21.1	21.3	19.4	20.8	19.7	21.0	21.3				
3H	21.2	22.4	21.5	22.6	23.0	21.1	22.3	21.5	22.6	22.9				
4H	21.9	23.0	22.3	23.3	23.6	21.8	22.9	22.2	23.2	23.6				
6H	22.4	23.4	22.8	23.8	24.1	22.4	23.3	22.8	23.7	24.1				
8H	22.6	23.5	23.1	23.9	24.3	22.6	23.5	23.0	23.8	24.2				
12H	22.8	23.6	23.2	24.0	24.4	22.7	23.5	23.1	23.9	24.3				
8H 4H	22.2	23.0	22.6	23.4	23.8	22.1	23.0	22.5	23.4	23.7				
6H	22.9	23.6	23.3	24.0	24.4	22.8	23.6	23.3	24.0	24.4				
8H	23.1	23.8	23.6	24.2	24.7	23.1	23.7	23.5	24.2	24.6				
12H	23.3	23.9	23.8	24.4	24.8	23.3	23.8	23.8	24.3	24.8				
12H 4H	22.2	23.0	22.6	23.4	23.8	22.1	22.9	22.5	23.3	23.7				
6H	22.9	23.6	23.4	24.0	24.5	22.9	23.5	23.3	24.0	24.4				
8H	23.2	23.8	23.7	24.3	24.7	23.2	23.8	23.7	24.2	24.7				
Variations with the observer position at spacings(CIE Pub.117):														
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.2								
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3								
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3								

CIE Pub.117, 2500 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 3.2)
Area: 0.04985 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:15 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: 99LED966WW	TYPE: 99LED966WW	WEIGHT: 1
SPEC.:	DIM.: F 280	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:

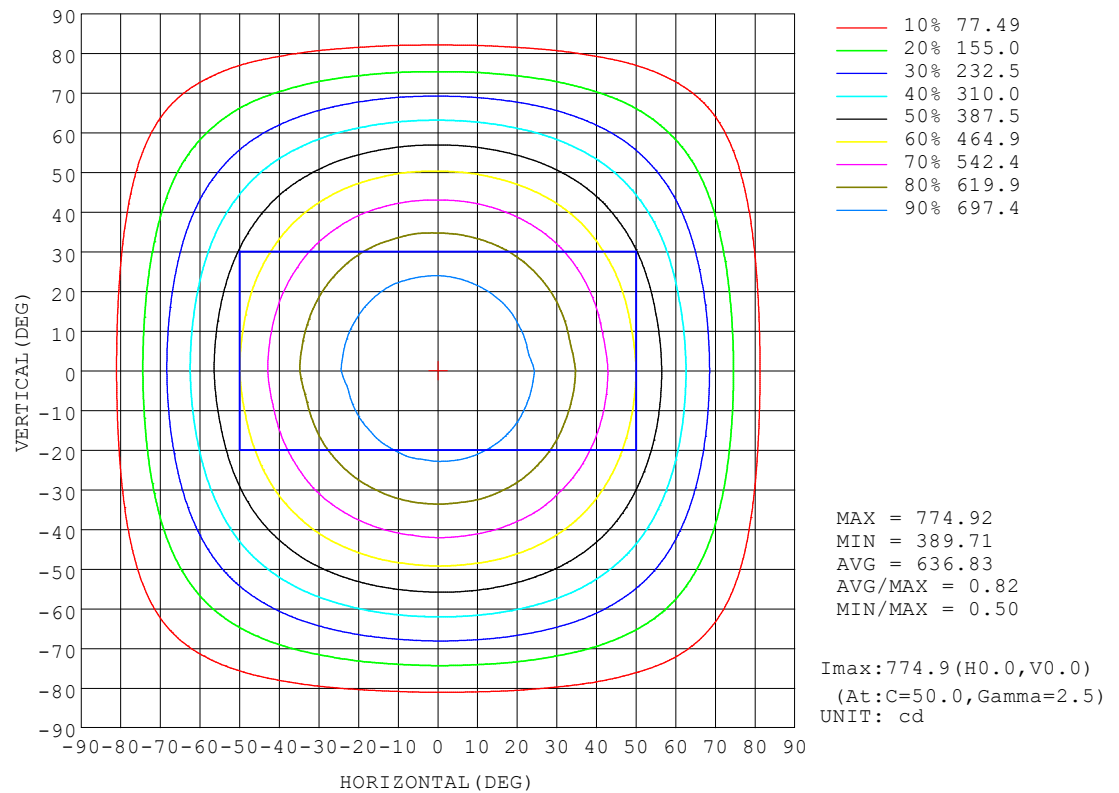
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	51	41	34	50	40	34	49	40	34	28
0.80	60	49	43	59	49	43	57	48	42	36
1.00	67	57	51	66	57	51	64	58	50	44
1.25	74	64	58	72	64	58	70	62	57	50
1.50	78	69	63	77	68	63	74	67	62	55
2.00	84	77	71	83	76	70	79	74	69	62
2.50	88	81	75	86	80	75	82	77	73	65
3.00	91	85	80	89	83	79	85	81	77	69
4.00	94	89	85	92	88	84	88	85	81	73
5.00	97	92	89	94	90	87	90	87	84	76
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: 15 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: 99LED966WW	TYPE: 99LED966WW	WEIGHT: 1
SPEC.:	DIM.: F 280	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:

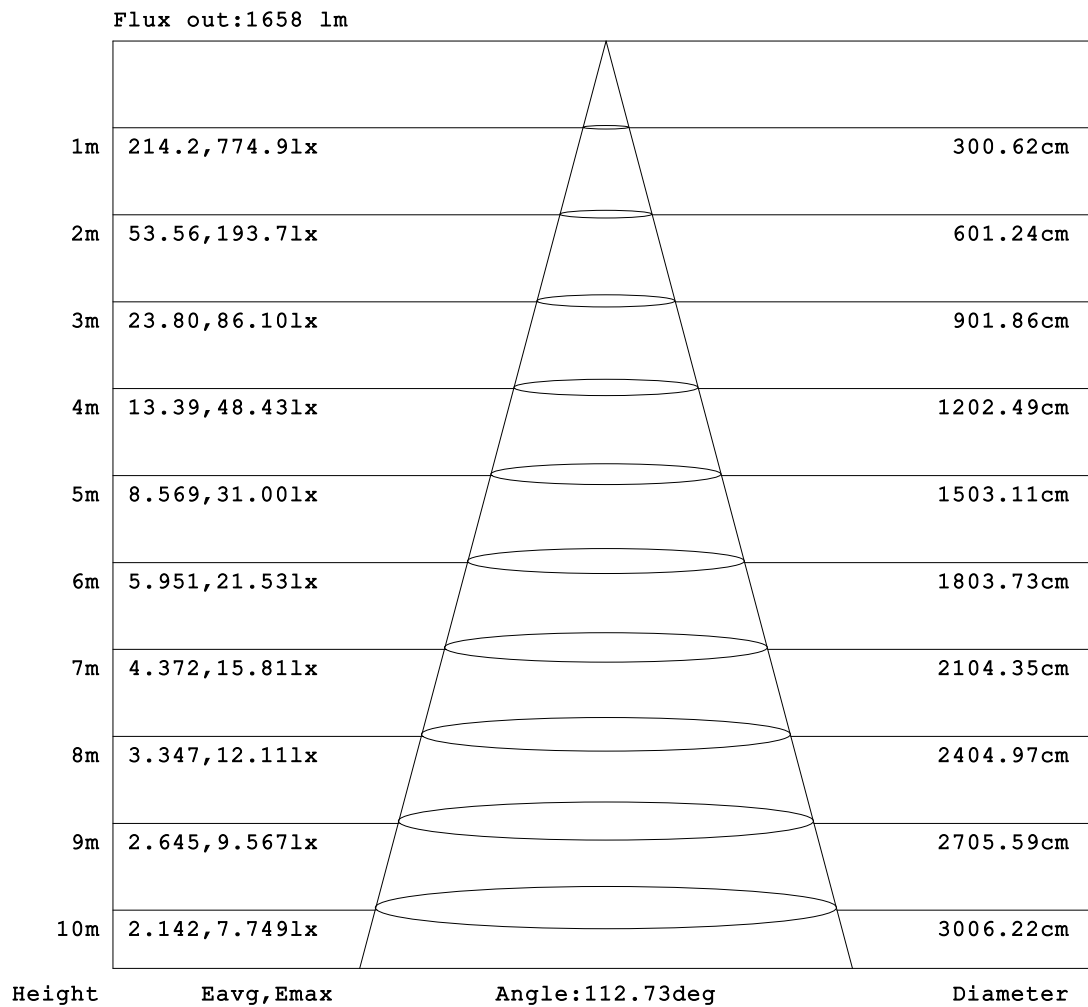


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature:25.3°C
 Operators:
 Test Date:15 August 2022

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: 99LED966WW	TYPE: 99LED966WW	WEIGHT: 1
SPEC.:	DIM.: F 280	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:



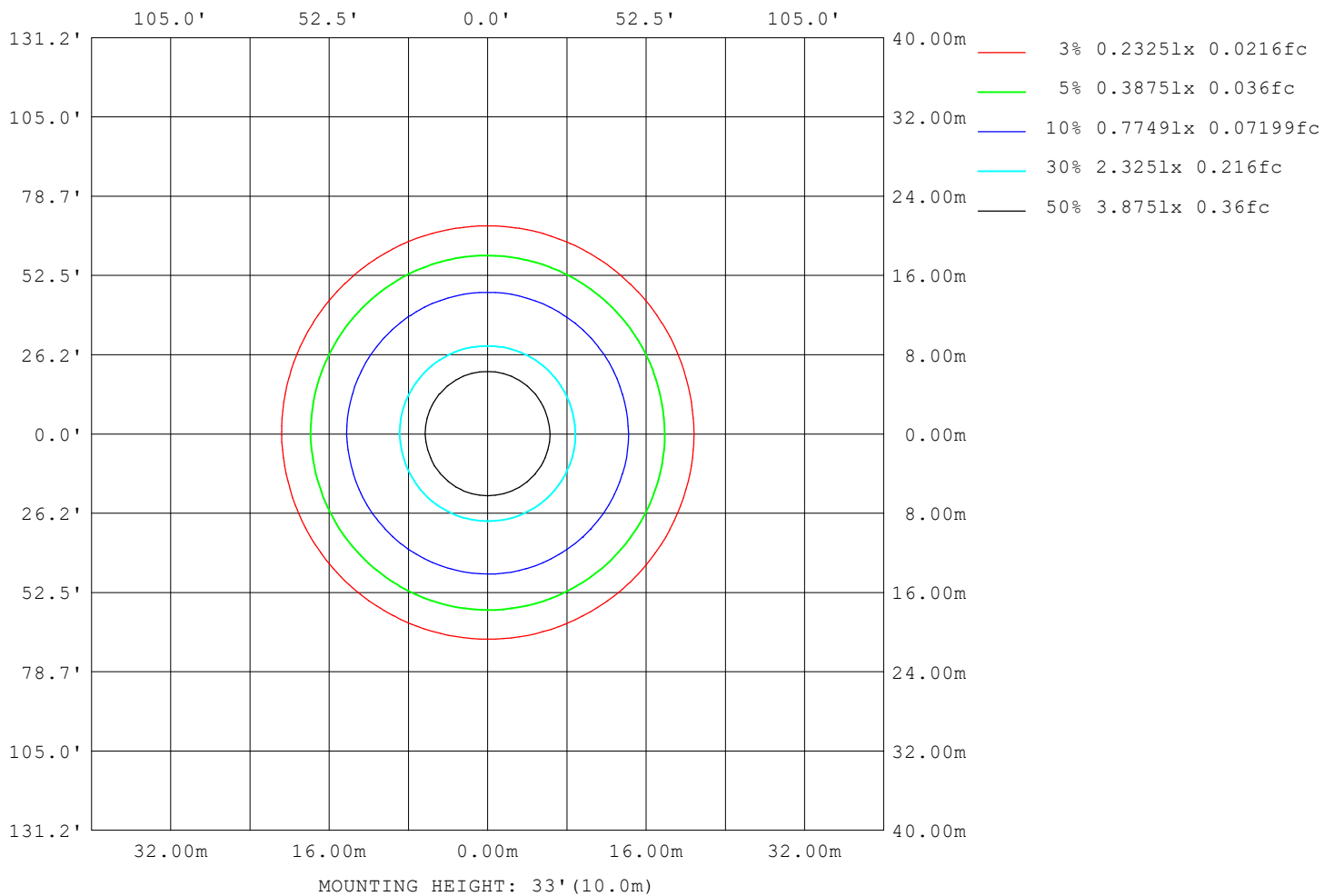
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 15 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: 99LED966WW	TYPE: 99LED966WW	WEIGHT: 1
SPEC.:	DIM.: F 280	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 15 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: 99LED966WW	TYPE: 99LED966WW	WEIGHT: 1
SPEC.:	DIM.: F 280	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:

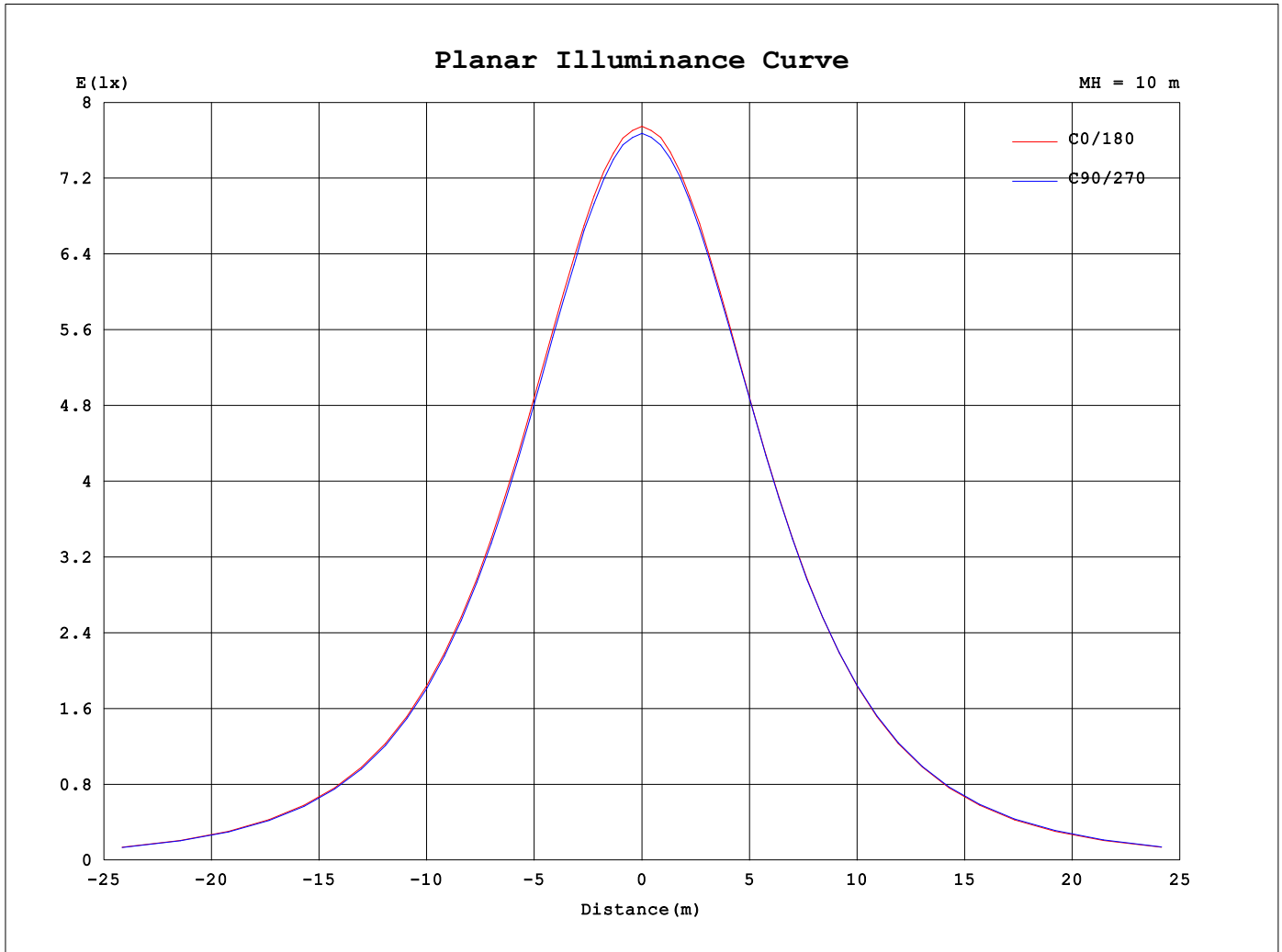
AvgL	cd/m2
L_0~180 (65) av	13088
L_0~180 (75) av	11439
L_0~180 (85) av	8912
L_90~270 (65) av	13287
L_90~270 (75) av	11921
L_90~270 (85) av	9833
L_45 (65) av	13169
L_45 (75) av	11682
L_45 (85) av	9411

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:15 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: 15 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:

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