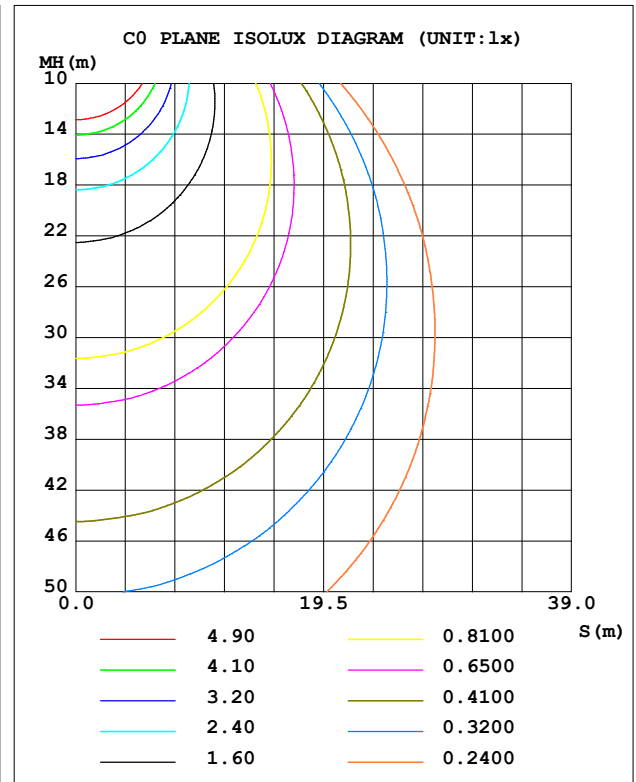
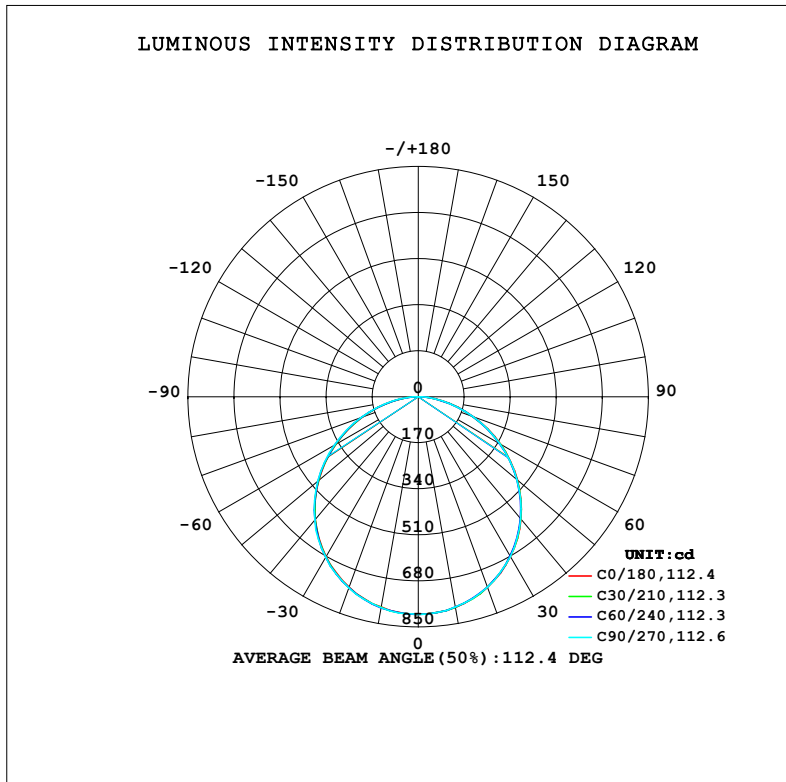


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 99LED966	TYPE: 99LED966	WEIGHT: 1
SPEC.:	DIM.: F 280	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99LED966	I _{max} (cd)	804.6	S/MH (C0/180)	1.26
NOMINAL POWER (W)	28	LOR (%)	92.3	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	2308.2	η UP, DN (C0-180)	0.0, 45.9
NOMINAL FLUX (lm)	2500	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 46.5
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	92.3	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	789.2	788.0	788.2	790.0	788.2	789.5	790.2	792.5	0- 10	76.07	76.07	3.3,3.04
20	748.6	746.8	748.0	749.1	748.3	748.5	750.5	750.5	10- 20	218.2	294.2	12.7,11.8
30	681.4	679.5	680.2	681.8	682.3	682.8	684.3	685.0	20- 30	331.2	625.5	27.1,25
40	590.7	587.7	588.4	590.7	591.7	592.8	594.9	595.7	30- 40	400.0	1026	44.4,41
50	479.0	475.8	475.7	478.9	480.3	481.5	484.7	484.5	40- 50	414.7	1440	62.4,57.6
60	351.3	347.4	348.6	352.1	353.0	354.7	358.4	357.6	50- 60	373.4	1814	78.6,72.5
70	218.0	212.9	215.7	219.6	219.5	221.0	225.2	225.5	60- 70	283.4	2097	90.9,83.9
80	92.53	88.64	91.18	94.42	94.18	94.69	99.22	99.43	70- 80	164.2	2261	98,90.5
90	1.290	1.278	1.290	1.298	1.114	1.114	1.344	1.132	80- 90	46.96	2308	100,92.3
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): 1234.6 lm

%lum = 53.5%

%lamp = 49.4%

Conical surface Flux(130deg): 1969 lm

%lum = 85.3%

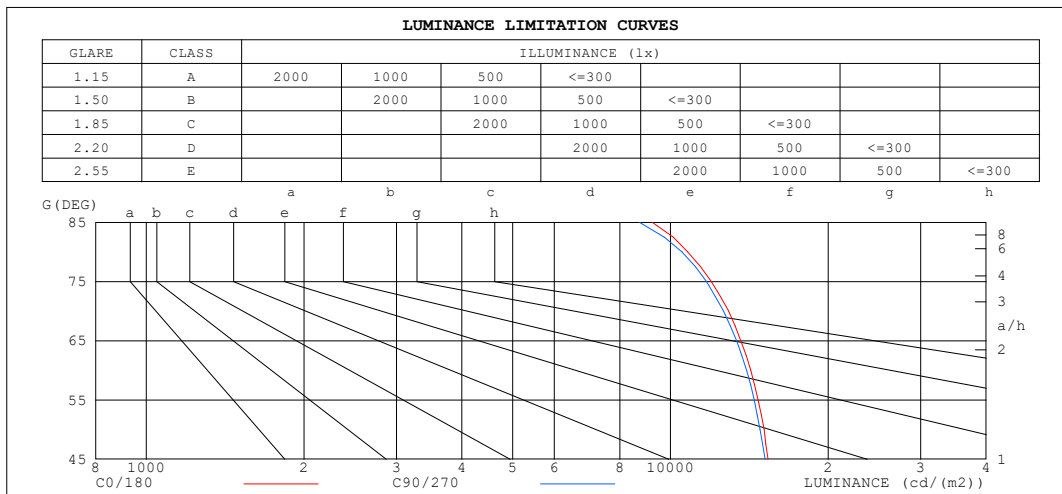
%lamp = 78.8%

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: 99LED966	TYPE: 99LED966	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	9240	8731
80	10785	10515
75	11959	11711
70	12902	12631
65	13618	13365
60	14219	13961
55	14688	14441
50	15080	14820
45	15354	15153

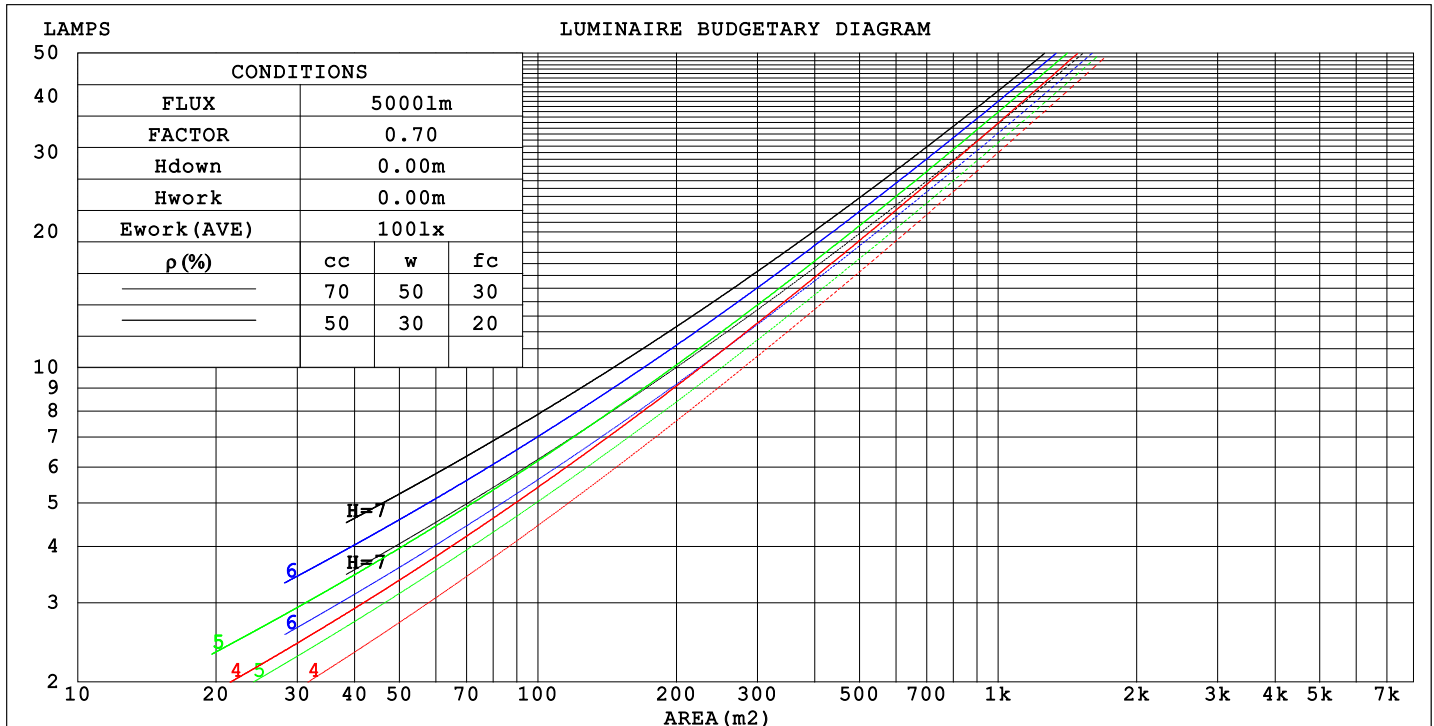
C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 15 August 2022

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: 99LED966	TYPE: 99LED966	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															



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:

WEC AND CCEC

NAME: 99LED966	TYPE: 99LED966	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	.288	.164	.052	.281	.161	.051	.269	.154	.049	.258	.149	.048	.247	.143	.046	
2.0	.270	.148	.045	.265	.146	.045	.254	.141	.044	.244	.137	.043	.235	.133	.042	
3.0	.250	.133	.040	.245	.131	.039	.235	.128	.039	.227	.124	.038	.218	.121	.037	
4.0	.231	.120	.035	.226	.118	.035	.218	.115	.034	.210	.113	.034	.202	.110	.034	
5.0	.213	.109	.031	.209	.107	.031	.202	.105	.031	.195	.103	.031	.188	.100	.030	
6.0	.198	.099	.028	.194	.098	.028	.187	.096	.028	.181	.094	.028	.175	.092	.027	
7.0	.184	.091	.026	.181	.090	.026	.175	.088	.025	.169	.087	.025	.164	.085	.025	
8.0	.172	.084	.024	.169	.083	.024	.164	.082	.023	.159	.080	.023	.154	.079	.023	
9.0	.161	.078	.022	.158	.077	.022	.154	.076	.022	.149	.075	.021	.145	.074	.021	
10.0	.151	.073	.020	.149	.072	.020	.145	.071	.020	.141	.070	.020	.137	.069	.020	

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	.176	.176	.176	.150	.150	.150	.103	.103	.103	.059	.059	.059	.019	.019	.019	
1.0	.167	.144	.124	.143	.124	.107	.098	.085	.074	.056	.049	.043	.018	.016	.014	
2.0	.159	.122	.090	.136	.105	.078	.093	.073	.054	.054	.042	.032	.017	.014	.010	
3.0	.152	.106	.068	.130	.091	.059	.089	.063	.042	.052	.037	.025	.017	.012	.008	
4.0	.145	.093	.054	.124	.081	.047	.086	.056	.033	.049	.033	.019	.016	.011	.006	
5.0	.138	.084	.043	.119	.072	.038	.082	.051	.027	.047	.030	.016	.015	.010	.005	
6.0	.131	.076	.036	.113	.066	.031	.078	.046	.022	.045	.027	.013	.015	.009	.004	
7.0	.125	.070	.031	.108	.060	.027	.074	.042	.019	.043	.025	.011	.014	.008	.004	
8.0	.119	.064	.026	.103	.056	.023	.071	.039	.016	.041	.023	.010	.013	.008	.003	
9.0	.114	.060	.023	.098	.052	.020	.068	.036	.014	.039	.021	.009	.013	.007	.003	
10.0	.108	.056	.021	.093	.048	.018	.065	.034	.013	.038	.020	.008	.012	.007	.003	

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: 99LED966					TYPE: 99LED966			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	19.0	20.5	19.3	20.7	20.9	18.9	20.4	19.2	20.6	20.8
	3H	20.5	21.9	20.8	22.1	22.4	20.4	21.8	20.7	22.0	22.3
	4H	21.1	22.4	21.4	22.7	22.9	21.0	22.3	21.3	22.6	22.8
	6H	21.5	22.8	21.8	23.0	23.3	21.4	22.7	21.7	22.9	23.2
	8H	21.6	22.9	22.0	23.1	23.4	21.5	22.7	21.9	23.0	23.3
	12H	21.7	22.9	22.1	23.2	23.5	21.6	22.8	21.9	23.1	23.4
4H	2H	19.6	20.9	19.9	21.2	21.4	19.5	20.9	19.8	21.1	21.4
	3H	21.2	22.4	21.6	22.7	23.0	21.2	22.3	21.5	22.6	22.9
	4H	22.0	23.0	22.3	23.4	23.7	21.9	22.9	22.2	23.3	23.6
	6H	22.5	23.5	22.9	23.8	24.2	22.4	23.4	22.8	23.7	24.1
	8H	22.7	23.6	23.1	24.0	24.3	22.6	23.5	23.0	23.9	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	23.1	22.6	23.5	23.8	22.1	23.0	22.5	23.4	23.8
	6H	22.9	23.6	23.3	24.0	24.5	22.8	23.5	23.3	24.0	24.4
	8H	23.2	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	23.2	23.8	23.7	24.3	24.7
12H	4H	22.2	23.0	22.6	23.4	23.8	22.1	23.0	22.6	23.3	23.7
	6H	22.9	23.6	23.4	24.0	24.5	22.9	23.5	23.3	23.9	24.4
	8H	23.2	23.8	23.7	24.3	24.7	23.2	23.7	23.6	24.2	24.6
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 / - 0.2					+ 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: 99LED966	TYPE: 99LED966	WEIGHT: 1
SPEC.:	DIM.: F 280	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:

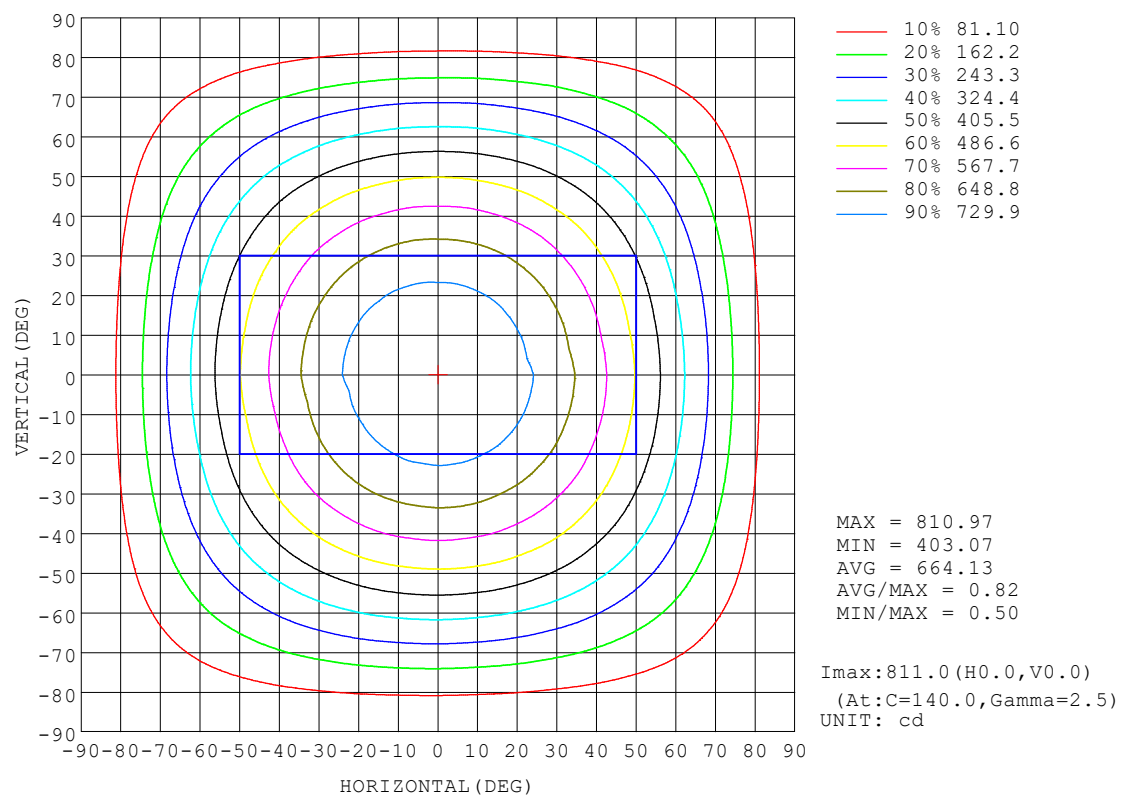
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	53	42	36	52	42	36	51	42	36	30
0.80	62	51	45	61	51	45	60	50	44	38
1.00	70	60	53	69	59	53	67	61	52	46
1.25	77	67	60	75	66	60	73	65	59	52
1.50	81	72	66	80	71	65	77	70	64	57
2.00	88	80	74	86	79	73	83	76	72	64
2.50	91	84	78	89	83	78	86	80	76	68
3.00	94	88	83	92	86	82	89	84	80	72
4.00	98	93	88	96	91	87	92	88	85	76
5.00	100	96	92	98	94	91	94	91	88	79
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: 99LED966	TYPE: 99LED966	WEIGHT: 1
SPEC.:	DIM.: F 280	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:

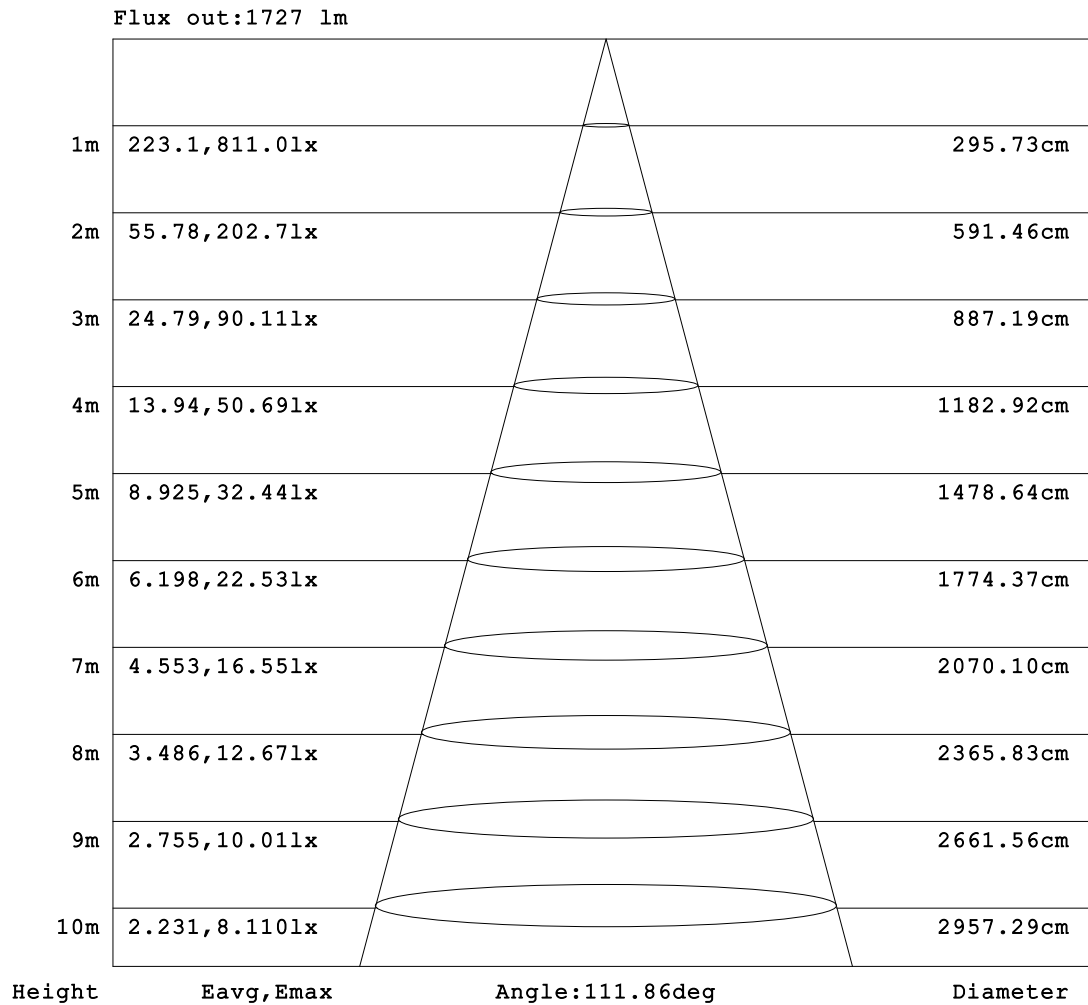


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 15 August 2022

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: 99LED966	TYPE: 99LED966	WEIGHT: 1
SPEC.:	DIM.: F 280	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:



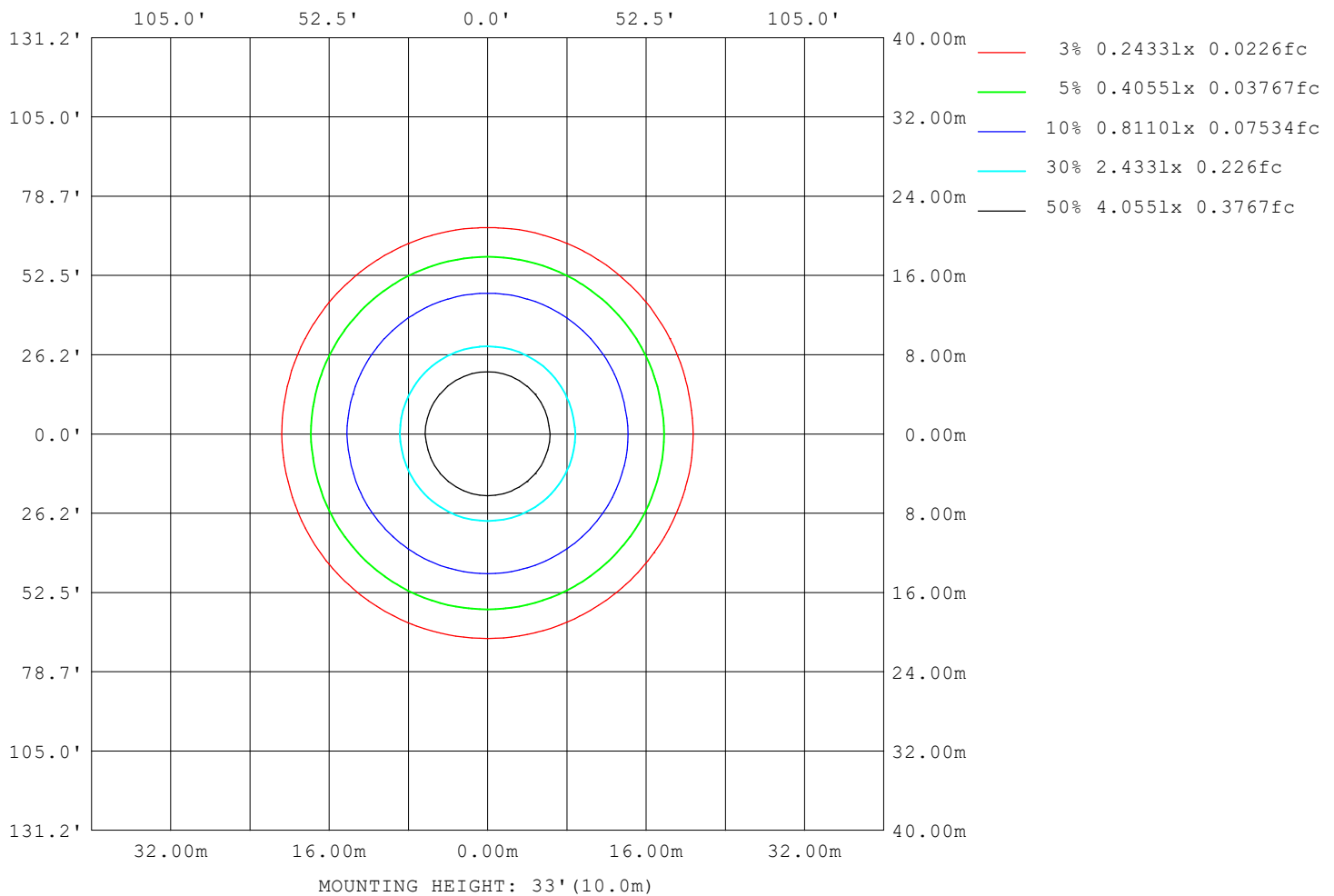
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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: 99LED966	TYPE: 99LED966	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: 99LED966	TYPE: 99LED966	WEIGHT: 1
SPEC.:	DIM.: F 280	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:

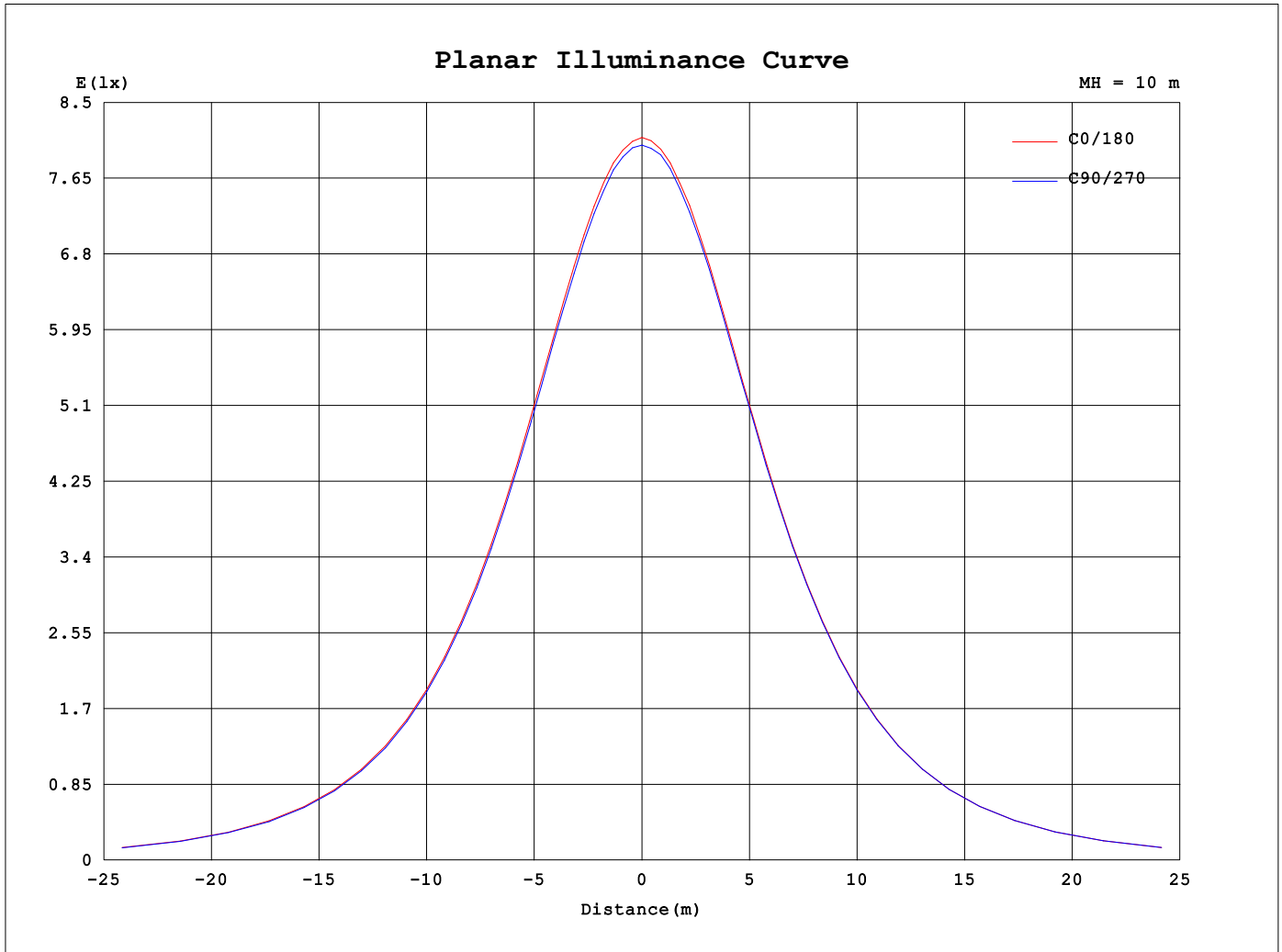
AvgL	cd/m2
L_0~180 (65) av	13545
L_0~180 (75) av	11930
L_0~180 (85) av	9240
L_90~270 (65) av	13621
L_90~270 (75) av	12080
L_90~270 (85) av	9544
L_45 (65) av	13610
L_45 (75) av	12010
L_45 (85) av	9380

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:

```