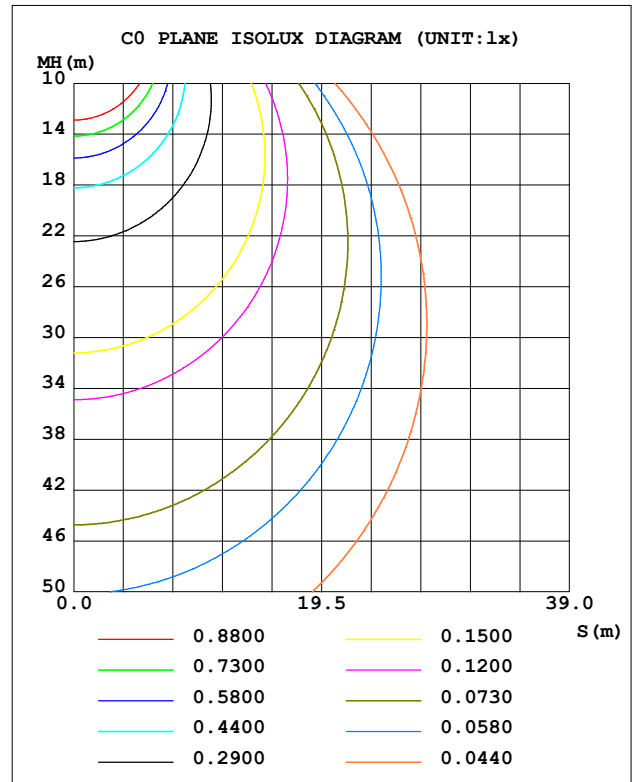
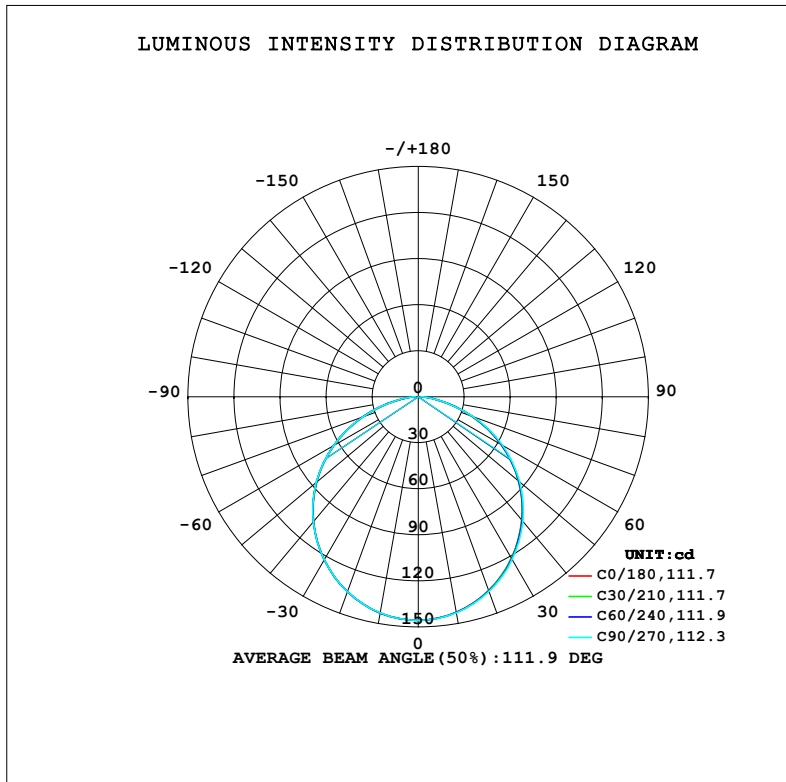


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 99LED642	TYPE: 99LED642	WEIGHT: 1
SPEC.:	DIM.: 100 x 100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Square	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99LED642	I _{max} (cd)	145.7	S/MH (C0/180)	1.25
NOMINAL POWER (W)	6	LOR (%)	85.4	S/MH (C90/270)	1.25
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	410.01	η UP, DN (C0-180)	0.0, 42.6
NOMINAL FLUX (lm)	480	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 42.8
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	85.4	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 17 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	142.6	142.7	142.9	143.0	143.1	143.1	143.0	142.8	0- 10	13.77	13.77	3.36,2.87
20	134.3	134.5	134.9	135.0	135.1	135.2	135.1	134.7	10- 20	39.36	53.13	13,11.1
30	121.5	121.7	122.4	122.4	122.6	122.6	122.7	121.9	20- 30	59.47	112.6	27.5,23.5
40	105.0	105.1	106.0	105.9	106.2	106.2	106.4	105.5	30- 40	71.59	184.2	44.9,38.4
50	85.30	85.34	86.28	86.14	86.49	86.54	86.77	85.81	40- 50	74.29	258.5	63,53.9
60	62.39	62.47	63.31	63.24	63.57	63.67	63.87	62.97	50- 60	66.99	325.5	79.4,67.8
70	37.22	37.41	37.99	38.15	38.32	38.55	38.53	37.91	60- 70	50.18	375.7	91.6,78.3
80	13.21	13.76	13.58	14.28	13.95	14.66	14.09	14.20	70- 80	27.00	402.7	98.2,83.9
90	1.840	1.998	1.814	2.053	1.897	2.058	1.891	2.043	80- 90	7.356	410.0	100,85.4
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): 221.62 lm

%lum = 54.1%
%lamp = 46.2%

Conical surface Flux(130deg): 353.18 lm

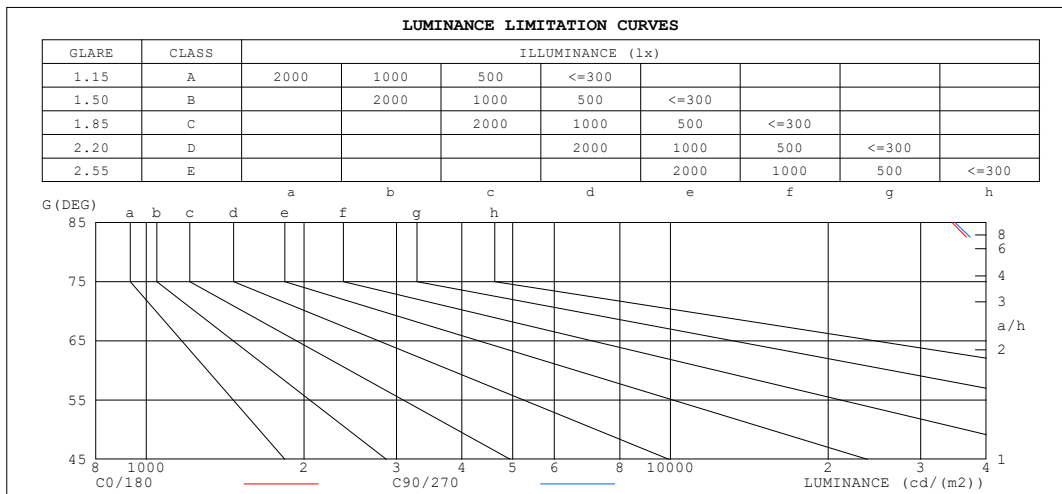
%lum = 86.1%
%lamp = 73.6%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:17 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: 99LED642	TYPE: 99LED642	WEIGHT: 1
SPEC.:	DIM.: 100 x 100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Square	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	34440	34856
80	41245	42245
75	51187	52196
70	59017	60016
65	64098	64986
60	67675	68419
55	70225	70853
50	71971	72531
45	73296	73785

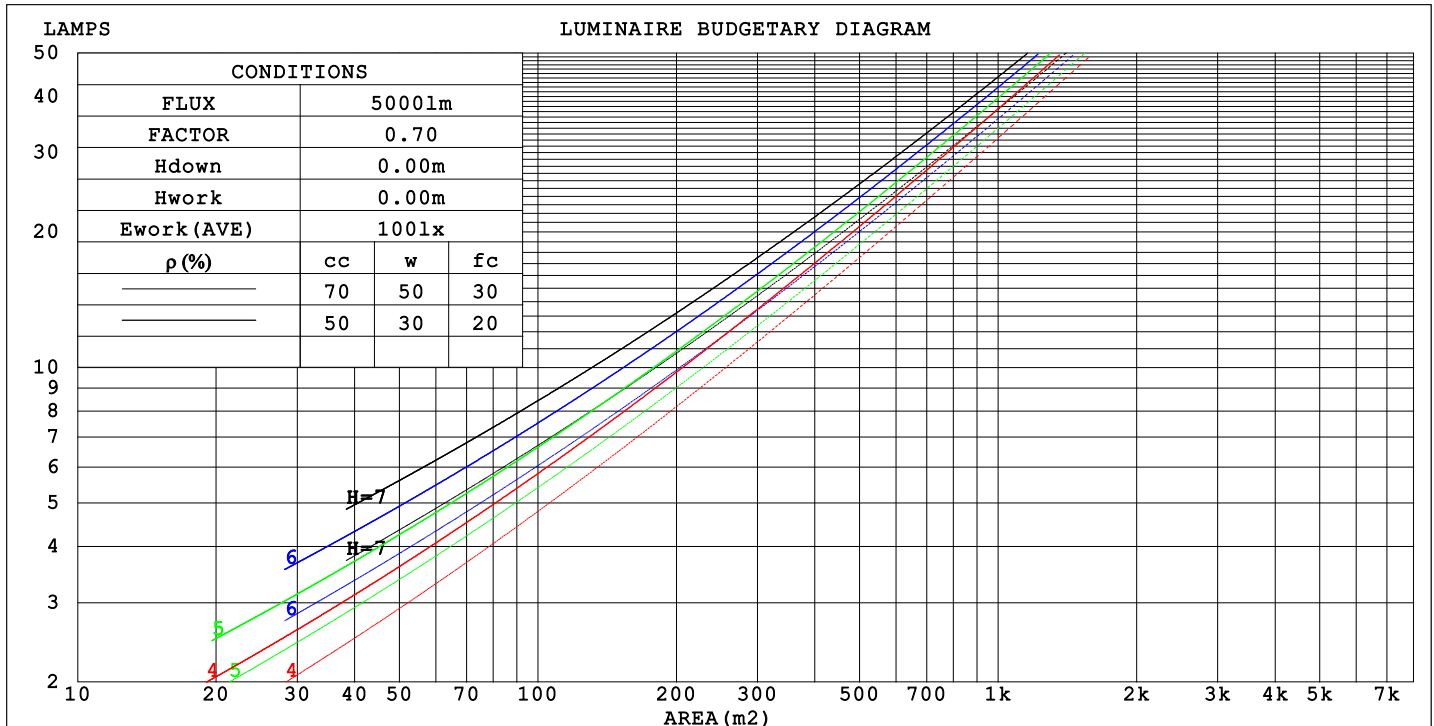
C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 17 August 2022

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: 99LED642	TYPE: 99LED642	WEIGHT: 1
SPEC.:	DIM.: 100 x 100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Square	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:17 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: 99LED642	TYPE: 99LED642	WEIGHT: 1
SPEC.:	DIM.: 100 x 100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Square	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	.262	.149	.047	.256	.146	.046	.245	.140	.045	.234	.135	.043	.225	.130	.042	
2.0	.247	.135	.042	.242	.133	.041	.232	.129	.040	.223	.125	.039	.214	.121	.038	
3.0	.229	.122	.037	.225	.120	.036	.216	.117	.036	.208	.114	.035	.200	.111	.034	
4.0	.212	.110	.032	.208	.109	.032	.200	.106	.032	.193	.103	.031	.186	.101	.031	
5.0	.196	.100	.029	.192	.099	.029	.185	.097	.028	.179	.094	.028	.173	.092	.028	
6.0	.182	.091	.026	.179	.090	.026	.172	.088	.026	.167	.087	.025	.161	.085	.025	
7.0	.169	.084	.024	.166	.083	.024	.161	.081	.023	.156	.080	.023	.151	.078	.023	
8.0	.158	.077	.022	.156	.077	.022	.151	.075	.022	.146	.074	.021	.142	.073	.021	
9.0	.148	.072	.020	.146	.071	.020	.142	.070	.020	.137	.069	.020	.133	.068	.020	
10.0	.140	.067	.019	.137	.066	.019	.133	.065	.018	.130	.064	.018	.126	.063	.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	.163	.163	.163	.139	.139	.139	.095	.095	.095	.055	.055	.055	.017	.017	.017	
1.0	.154	.133	.115	.132	.114	.099	.090	.079	.068	.052	.046	.040	.017	.015	.013	
2.0	.147	.113	.084	.126	.097	.073	.086	.067	.051	.050	.039	.030	.016	.013	.010	
3.0	.140	.098	.064	.120	.084	.055	.083	.059	.039	.048	.034	.023	.015	.011	.007	
4.0	.134	.086	.050	.115	.075	.043	.079	.052	.031	.046	.030	.018	.015	.010	.006	
5.0	.127	.077	.040	.109	.067	.035	.075	.047	.025	.044	.027	.015	.014	.009	.005	
6.0	.121	.070	.034	.104	.061	.029	.072	.043	.021	.042	.025	.012	.013	.008	.004	
7.0	.116	.064	.028	.099	.056	.025	.069	.039	.018	.040	.023	.010	.013	.008	.003	
8.0	.110	.059	.025	.095	.051	.021	.066	.036	.015	.038	.021	.009	.012	.007	.003	
9.0	.105	.055	.022	.090	.048	.019	.063	.034	.013	.036	.020	.008	.012	.007	.003	
10.0	.100	.051	.019	.086	.045	.017	.060	.031	.012	.035	.019	.007	.011	.006	.002	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:17 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: 99LED642					TYPE: 99LED642			WEIGHT: 1			
SPEC.:					DIM.: 100 x 100			SERIAL No.: 0			
MFR.: Elmark Industries JSC					SUR.: Square			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	30.2	31.7	30.4	31.9	32.1	30.2	31.7	30.5	31.9	32.1
	3H	31.6	33.0	31.9	33.2	33.5	31.6	33.1	31.9	33.3	33.5
	4H	32.1	33.4	32.4	33.7	33.9	32.2	33.5	32.5	33.7	34.0
	6H	32.4	33.6	32.7	33.9	34.2	32.4	33.7	32.8	34.0	34.3
	8H	32.4	33.7	32.8	33.9	34.2	32.5	33.7	32.9	34.0	34.3
	12H	32.5	33.6	32.8	33.9	34.2	32.5	33.7	32.9	34.0	34.3
4H	2H	30.8	32.1	31.1	32.3	32.6	30.8	32.1	31.1	32.4	32.6
	3H	32.3	33.5	32.7	33.8	34.1	32.4	33.6	32.7	33.9	34.2
	4H	33.0	34.0	33.3	34.3	34.7	33.0	34.1	33.4	34.4	34.7
	6H	33.3	34.3	33.7	34.6	35.0	33.4	34.4	33.8	34.7	35.1
	8H	33.4	34.3	33.9	34.7	35.1	33.5	34.4	33.9	34.8	35.1
	12H	33.5	34.3	33.9	34.7	35.1	33.6	34.4	34.0	34.8	35.2
8H	4H	33.2	34.1	33.6	34.4	34.8	33.2	34.1	33.6	34.5	34.9
	6H	33.7	34.4	34.1	34.8	35.2	33.7	34.5	34.2	34.9	35.3
	8H	33.8	34.5	34.3	34.9	35.4	33.9	34.6	34.4	35.0	35.4
	12H	34.0	34.5	34.4	35.0	35.4	34.0	34.6	34.5	35.0	35.5
12H	4H	33.2	34.0	33.6	34.4	34.8	33.2	34.0	33.6	34.4	34.8
	6H	33.7	34.4	34.2	34.8	35.2	33.8	34.4	34.2	34.8	35.3
	8H	33.9	34.5	34.4	34.9	35.4	34.0	34.5	34.4	35.0	35.4
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 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 480.0 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.6)
Area: 0.001849 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:17 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: 99LED642	TYPE: 99LED642	WEIGHT: 1
SPEC.:	DIM.: 100 x 100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Square	Shielding Angle:

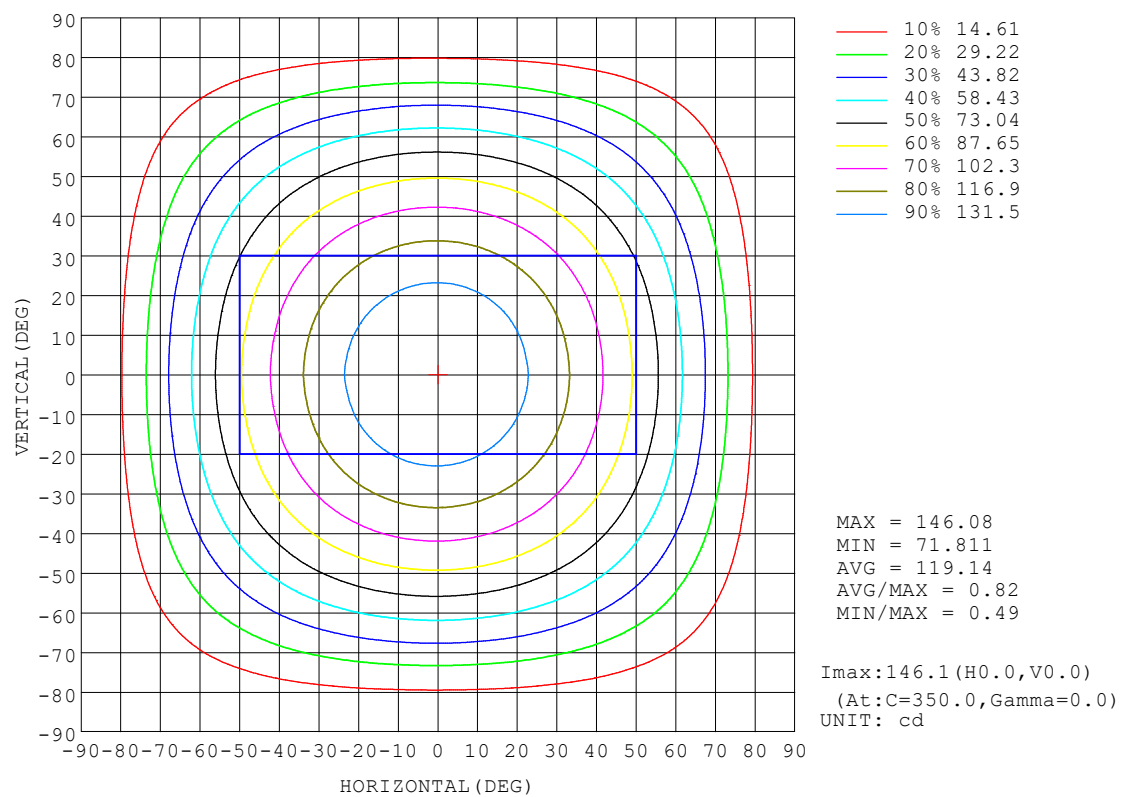
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	49	39	33	49	39	33	48	39	33	28
0.80	58	48	42	57	48	42	55	47	41	35
1.00	65	56	49	64	55	49	62	56	49	43
1.25	71	62	56	70	62	56	68	60	55	49
1.50	75	67	61	74	66	61	71	65	60	53
2.00	81	74	69	80	73	68	77	71	67	60
2.50	85	78	73	83	77	72	80	75	71	63
3.00	87	82	77	86	80	76	82	78	74	67
4.00	91	86	82	89	85	81	85	82	79	71
5.00	93	89	85	91	87	84	87	84	81	74
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: 17 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: 99LED642	TYPE: 99LED642	WEIGHT: 1
SPEC.:	DIM.: 100 x 100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Square	Shielding Angle:

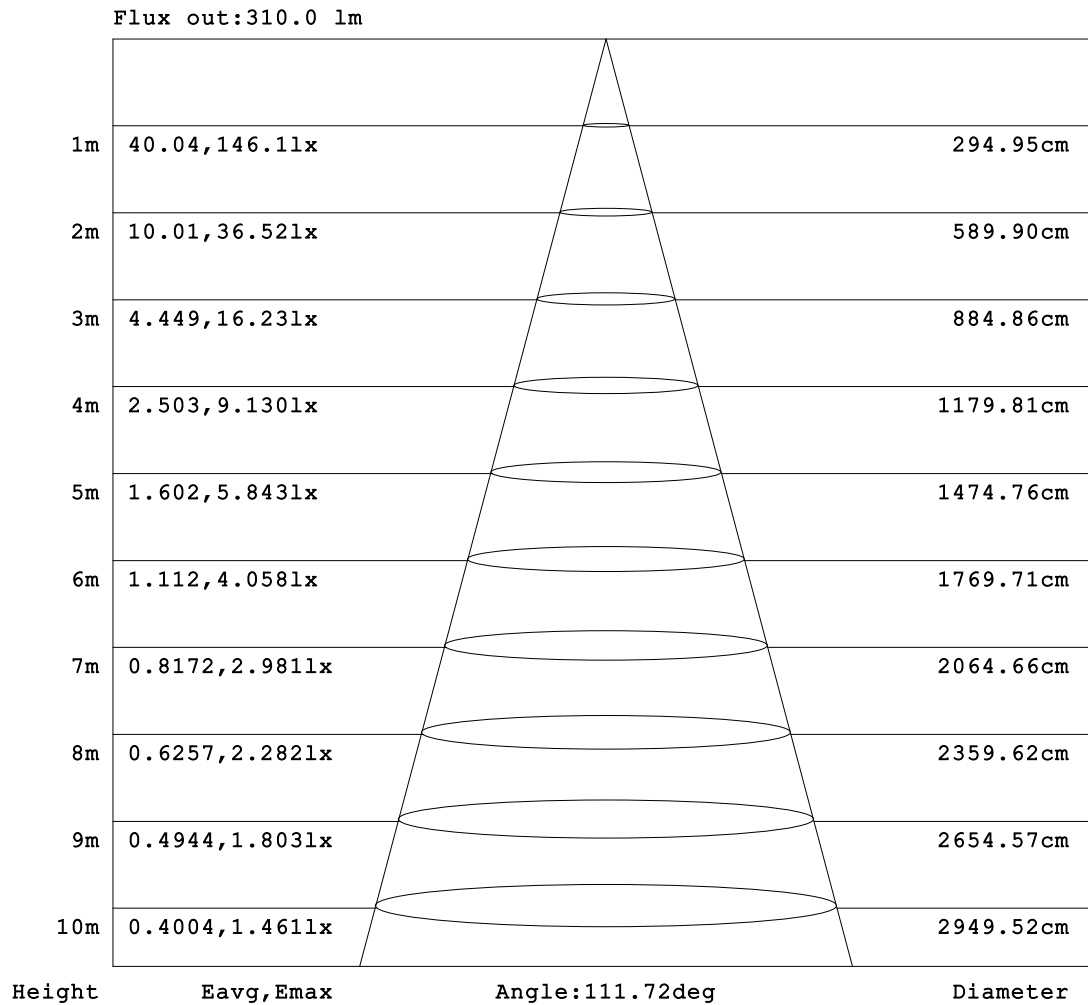


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature:25.3°C
 Operators:
 Test Date:17 August 2022

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: 99LED642	TYPE: 99LED642	WEIGHT: 1
SPEC.:	DIM.: 100 x 100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Square	Shielding Angle:



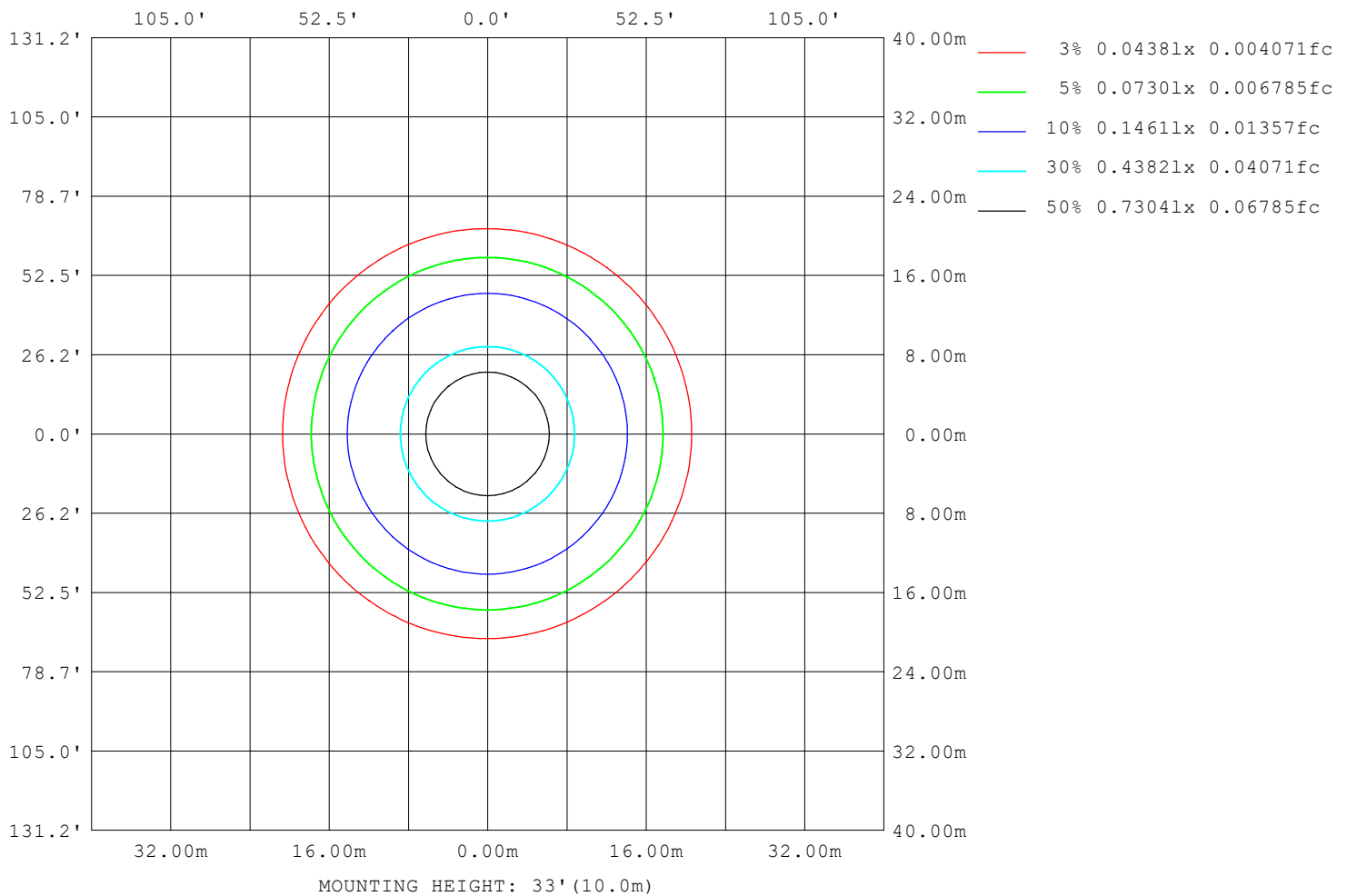
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 17 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: 99LED642	TYPE: 99LED642	WEIGHT: 1
SPEC.:	DIM.: 100 x 100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Square	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 17 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: 99LED642	TYPE: 99LED642	WEIGHT: 1
SPEC.:	DIM.: 100 x 100	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Square	Shielding Angle:

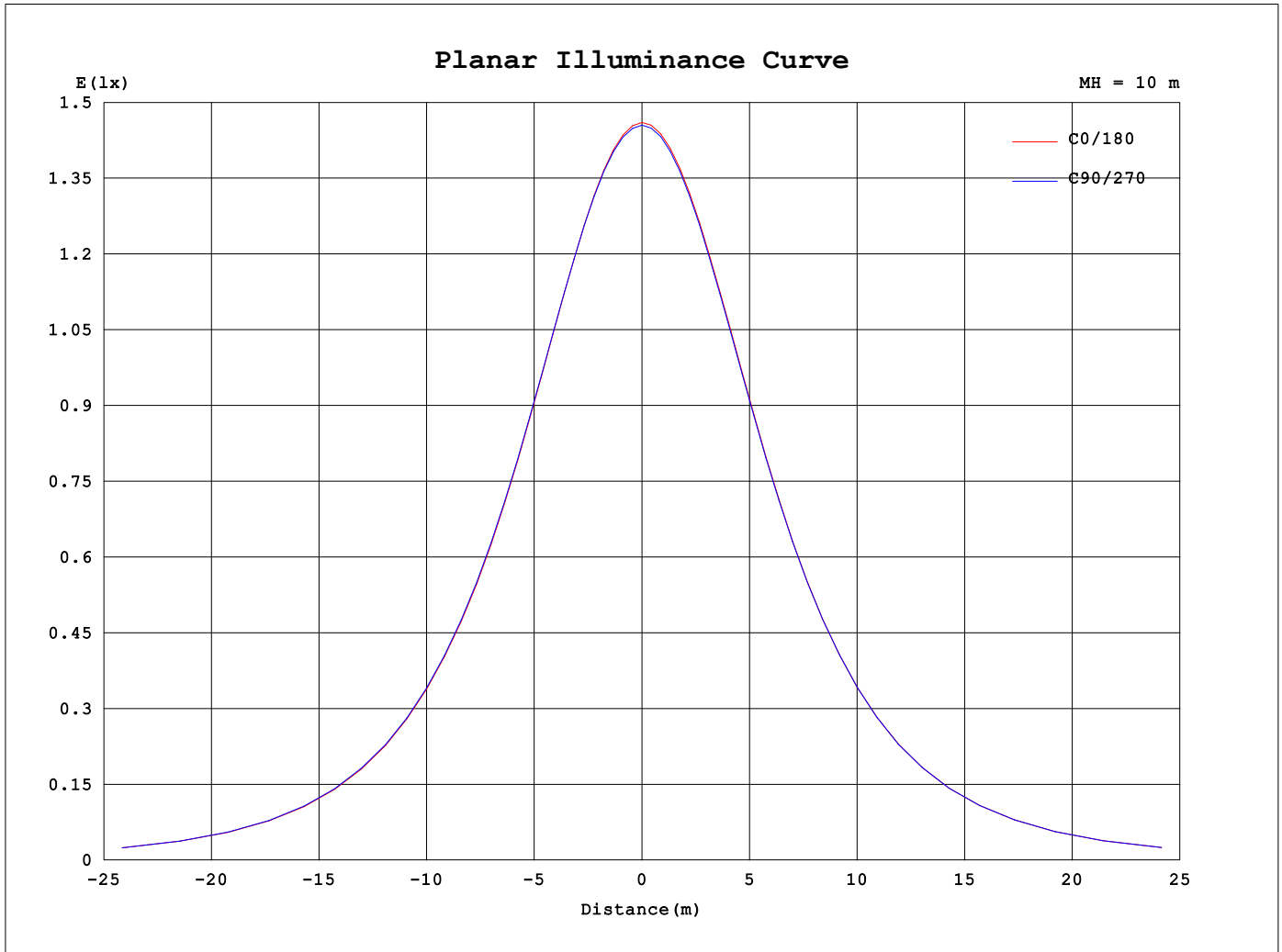
AvgL	cd/m2
L_0~180 (65) av	64674
L_0~180 (75) av	52086
L_0~180 (85) av	35637
L_90~270 (65) av	65415
L_90~270 (75) av	52987
L_90~270 (85) av	35724
L_45 (65) av	64900
L_45 (75) av	53430
L_45 (85) av	37896

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:17 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: 17 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:

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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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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:

```