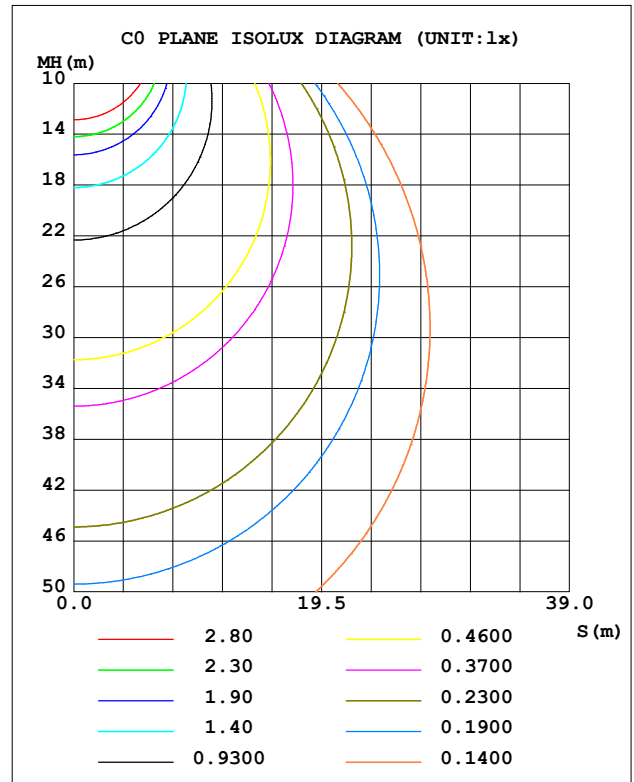
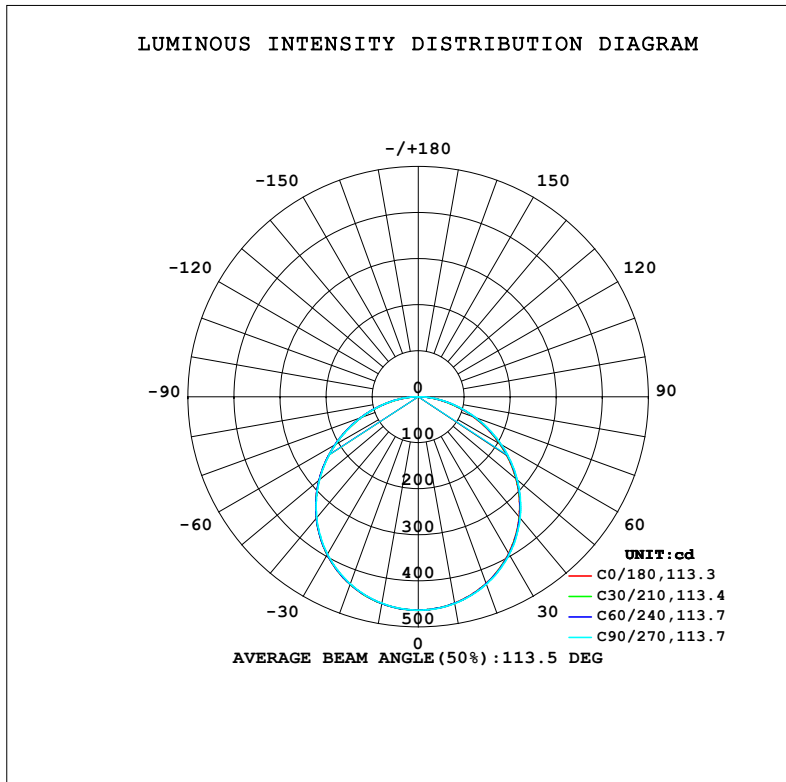


## LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 99XLED634	TYPE: 99XLED634	WEIGHT: 1
SPEC.:	DIM.: 218 x218	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square 176 x176	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99XLED634	I <sub>max</sub> (cd)	463.5	S/MH (C0/180)	1.27
NOMINAL POWER (W)	18	LOR (%)	99.8	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	1347.4	η UP, DN (C0-180)	0.0, 49.9
NOMINAL FLUX (lm)	1350	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.9
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	99.8	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators:  
Test Date: 14 July 2022

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
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	455.0	455.4	455.9	456.2	456.2	455.9	455.4	455.2	0- 10	43.86	43.86	3.26,3.25
20	431.3	432.1	433.1	433.5	433.5	433.1	432.4	431.6	10- 20	125.9	169.8	12.6,12.6
30	392.9	394.1	395.5	395.8	396.0	395.6	394.5	393.4	20- 30	191.5	361.2	26.8,26.8
40	340.9	342.4	344.1	344.4	344.6	344.3	343.1	341.5	30- 40	231.8	593.0	44,43.9
50	277.2	278.9	281.0	280.9	281.2	281.1	279.9	277.9	40- 50	241.2	834.2	61.9,61.8
60	204.3	206.5	208.7	208.3	208.6	208.9	207.9	205.3	50- 60	218.4	1053	78.1,78
70	127.2	130.2	132.6	131.4	131.7	132.4	131.7	128.6	60- 70	167.3	1220	90.5,90.4
80	55.07	57.55	59.35	58.03	57.40	59.26	58.93	56.18	70- 80	98.62	1318	97.9,97.7
90	0.8135	0.8041	0.8004	0.9178	1.033	1.024	0.7487	0.7163	80- 90	28.88	1347	100,99.8
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): 714.45 lm

%lum = 53.0%  
%lamp = 52.9%

Conical surface Flux(130deg): 1144 lm

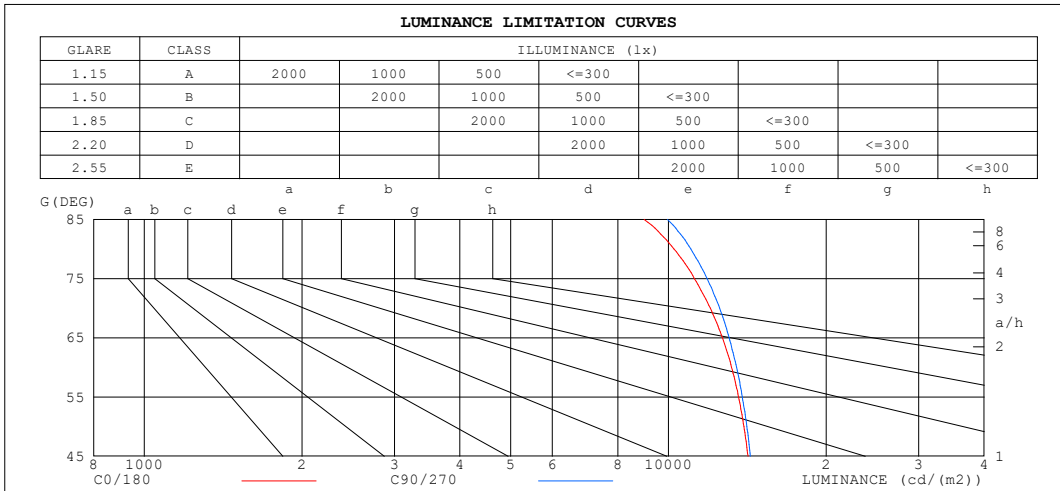
%lum = 84.9%  
%lamp = 84.7%

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:14 July 2022

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
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: 99XLED634	TYPE: 99XLED634	WEIGHT: 1
SPEC.:	DIM.: 218 x218	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square 176 x176	Shielding Angle:



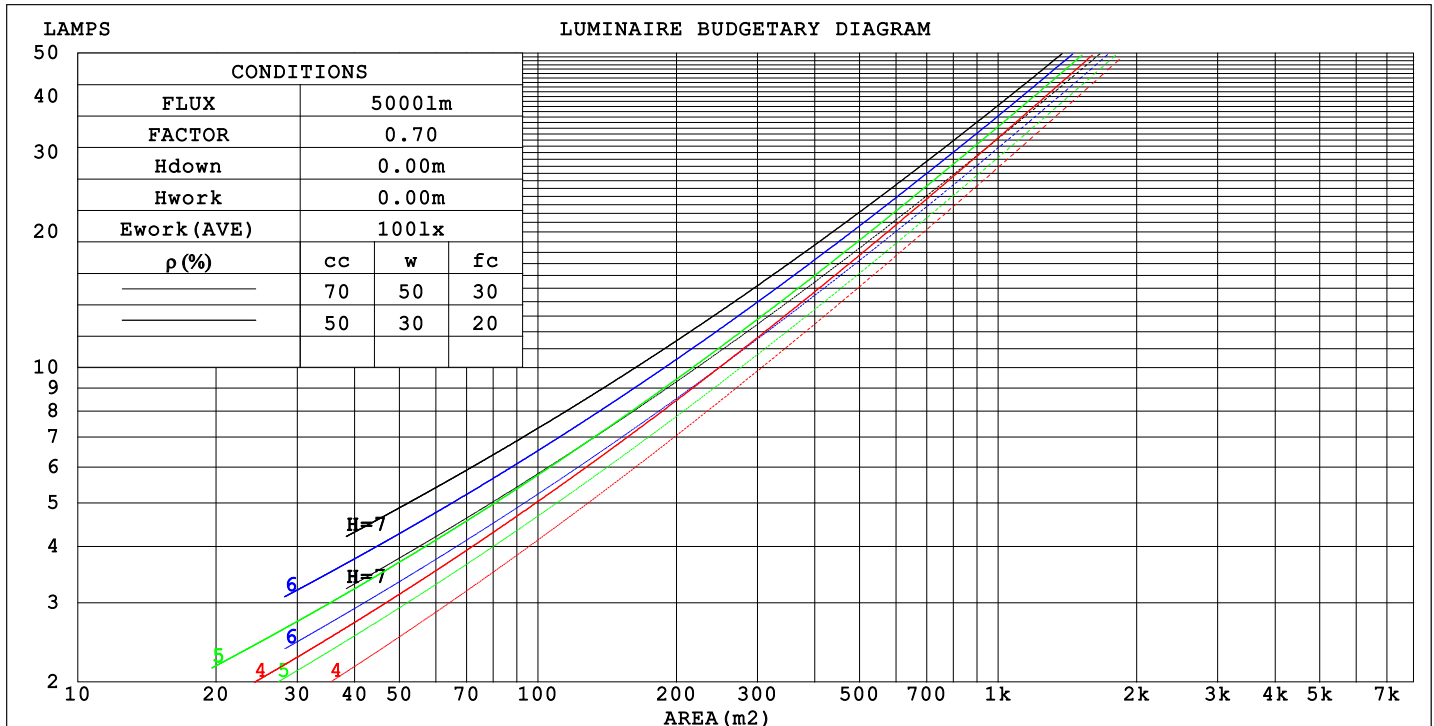
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators:  
Test Date: 14 July 2022

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
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: 99XLED634	TYPE: 99XLED634	WEIGHT: 1
SPEC.:	DIM.: 218 x218	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square 176 x176	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: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:14 July 2022

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
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: 99XLED634	TYPE: 99XLED634	WEIGHT: 1
SPEC.:	DIM.: 218 x218	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square 176 x176	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	.314	.179	.057	.307	.175	.056	.294	.168	.054	.281	.162	.052	.270	.157	.050	
2.0	.294	.161	.049	.288	.159	.049	.276	.154	.048	.266	.149	.047	.256	.145	.046	
3.0	.272	.145	.043	.266	.143	.043	.256	.139	.042	.246	.135	.041	.237	.131	.041	
4.0	.250	.130	.038	.246	.129	.038	.236	.125	.037	.228	.122	.037	.220	.120	.036	
5.0	.231	.118	.034	.227	.117	.034	.219	.114	.034	.211	.111	.033	.204	.109	.033	
6.0	.214	.107	.031	.211	.106	.031	.203	.104	.030	.196	.102	.030	.190	.100	.030	
7.0	.199	.099	.028	.196	.098	.028	.189	.096	.028	.183	.094	.027	.178	.092	.027	
8.0	.186	.091	.026	.183	.090	.025	.177	.089	.025	.172	.087	.025	.167	.086	.025	
9.0	.174	.084	.024	.172	.084	.023	.166	.082	.023	.162	.081	.023	.157	.080	.023	
10.0	.164	.079	.022	.161	.078	.022	.157	.077	.022	.152	.076	.022	.148	.075	.021	

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	.190	.190	.190	.162	.162	.162	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.180	.156	.134	.154	.134	.115	.106	.092	.080	.061	.053	.046	.019	.017	.015	
2.0	.172	.132	.097	.148	.113	.084	.101	.078	.059	.058	.046	.034	.019	.015	.011	
3.0	.165	.114	.074	.141	.098	.064	.097	.068	.045	.056	.040	.026	.018	.013	.009	
4.0	.157	.101	.058	.135	.087	.050	.093	.061	.035	.054	.036	.021	.017	.012	.007	
5.0	.150	.090	.047	.128	.078	.041	.088	.055	.029	.051	.032	.017	.017	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.136	.075	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.129	.069	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.003	
9.0	.123	.065	.025	.106	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.019	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:14 July 2022

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
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: 99XLED634					TYPE: 99XLED634			WEIGHT: 1			
SPEC.:					DIM.: 218 x218			SERIAL No.: 0			
MFR.: Elmark Industries JSC					SUR.: square 176 x176			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	20.9	22.4	21.2	22.6	22.8	21.0	22.5	21.2	22.7	22.9
	3H	22.4	23.8	22.7	24.1	24.3	22.5	23.9	22.8	24.2	24.4
	4H	23.0	24.4	23.3	24.6	24.9	23.2	24.5	23.5	24.8	25.0
	6H	23.5	24.7	23.8	25.0	25.3	23.7	24.9	24.0	25.2	25.5
	8H	23.6	24.8	23.9	25.1	25.4	23.8	25.0	24.2	25.3	25.6
	12H	23.7	24.9	24.1	25.2	25.5	23.9	25.1	24.3	25.4	25.7
4H	2H	21.5	22.9	21.8	23.1	23.4	21.6	22.9	21.9	23.2	23.4
	3H	23.2	24.4	23.6	24.7	25.0	23.3	24.5	23.7	24.8	25.1
	4H	24.0	25.0	24.3	25.4	25.7	24.1	25.2	24.5	25.5	25.8
	6H	24.5	25.5	24.9	25.8	26.2	24.7	25.7	25.1	26.0	26.4
	8H	24.7	25.6	25.2	26.0	26.4	24.9	25.8	25.4	26.2	26.6
	12H	24.9	25.7	25.3	26.1	26.5	25.1	25.9	25.5	26.3	26.7
8H	4H	24.2	25.1	24.7	25.5	25.9	24.4	25.3	24.8	25.6	26.0
	6H	25.0	25.7	25.4	26.1	26.6	25.1	25.9	25.6	26.3	26.7
	8H	25.3	25.9	25.7	26.4	26.8	25.5	26.1	25.9	26.6	27.0
	12H	25.5	26.1	26.0	26.5	27.0	25.7	26.3	26.2	26.7	27.2
12H	4H	24.3	25.1	24.7	25.5	25.9	24.4	25.2	24.8	25.6	26.0
	6H	25.1	25.7	25.5	26.1	26.6	25.2	25.9	25.7	26.3	26.8
	8H	25.4	26.0	25.9	26.4	26.9	25.6	26.1	26.1	26.6	27.1
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H		+ 0.1 / - 0.2					+ 0.1 / - 0.2				
1.5H		+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H		+ 0.1 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 1350 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.0)  
Area: 0.030976 m2

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:14 July 2022

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
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: 99XLED634	TYPE: 99XLED634	WEIGHT: 1
SPEC.:	DIM.: 218 x218	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square 176 x176	Shielding Angle:

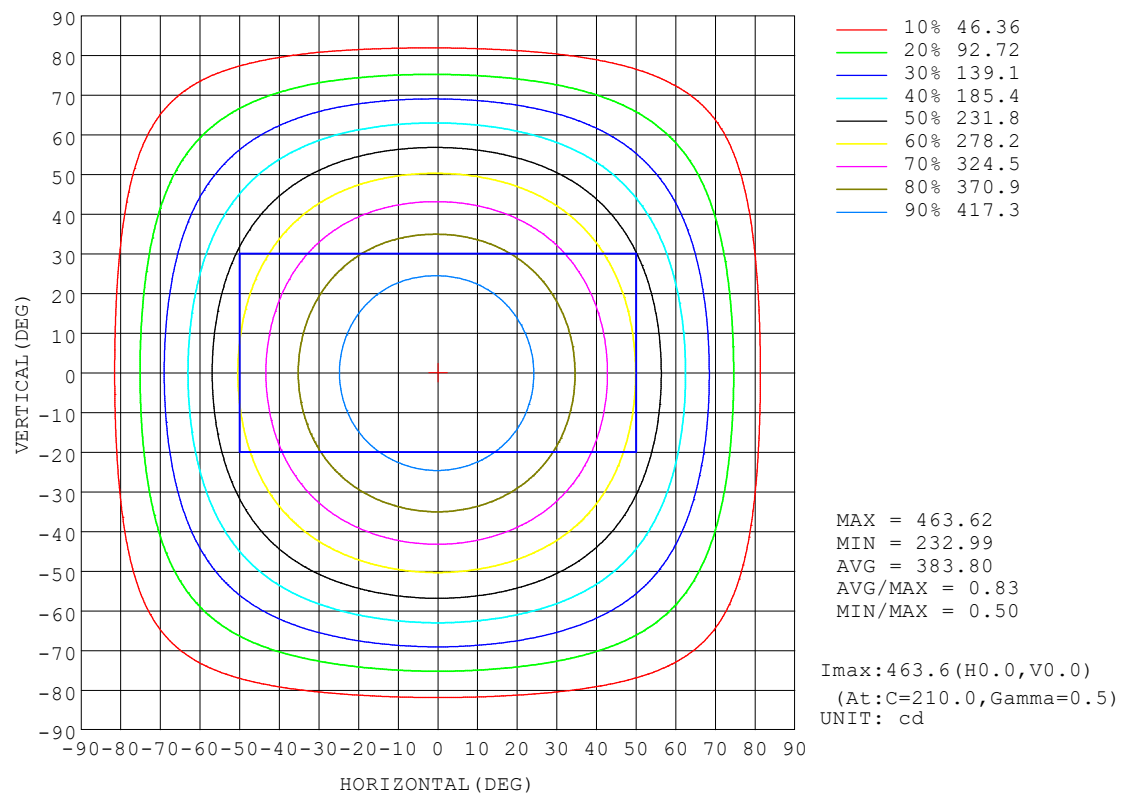
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	45	38	56	45	38	55	45	38	32
0.80	67	55	48	66	55	48	64	54	47	40
1.00	75	64	57	74	64	57	72	65	56	49
1.25	83	72	65	81	71	64	78	70	64	56
1.50	88	78	71	86	77	70	83	75	69	61
2.00	94	86	79	93	85	79	89	82	77	69
2.50	98	91	84	96	89	84	92	86	82	73
3.00	102	95	89	100	93	88	96	90	86	77
4.00	106	100	95	103	98	94	99	95	91	82
5.00	108	103	99	106	101	98	101	98	95	85
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:14 July 2022

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

**ISOCANDELA DIAGRAM**

NAME: 99XLED634	TYPE: 99XLED634	WEIGHT: 1
SPEC.:	DIM.: 218 x218	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square 176 x176	Shielding Angle:



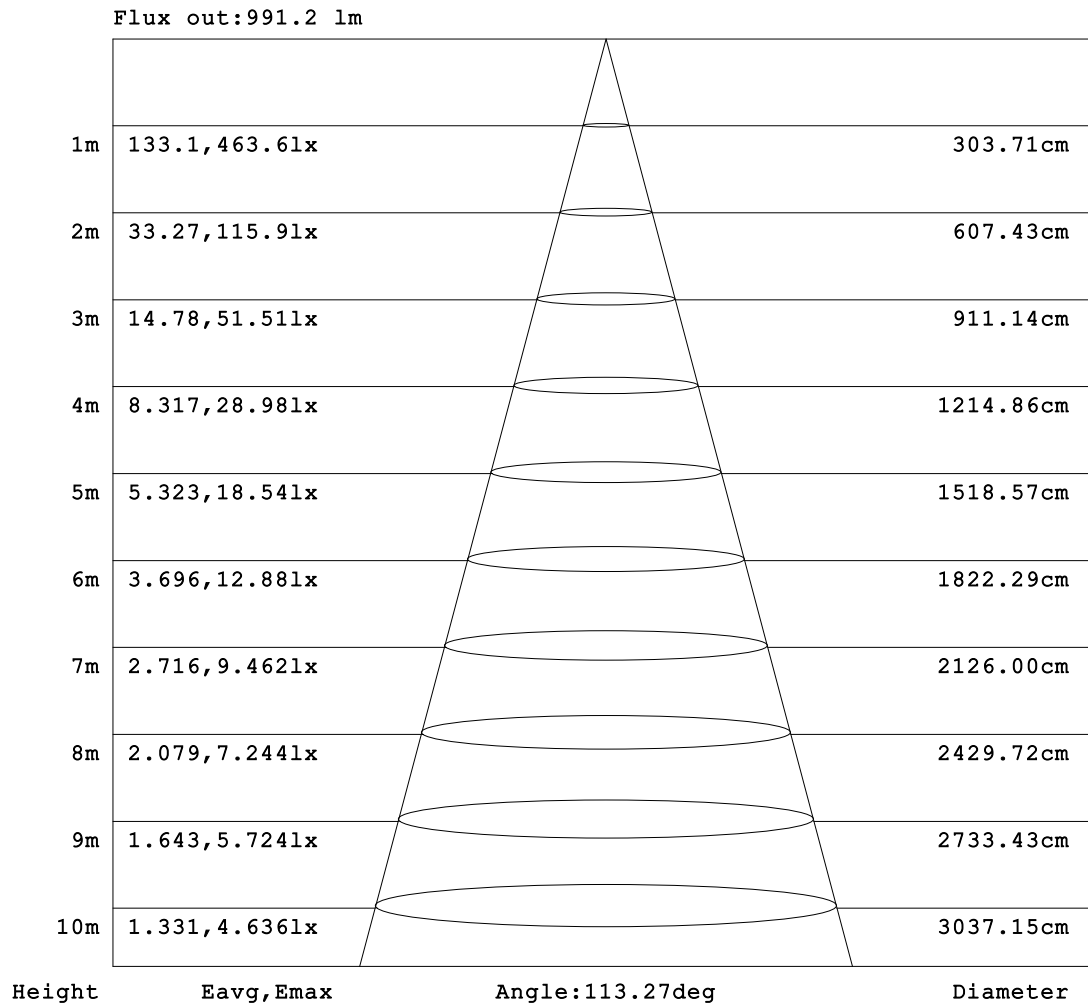
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 14 July 2022

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
 Humidity: 65.0%  
 Test Distance: 6.265m [K=1.0000]  
 Remarks:



**AAI Figure**

NAME: 99XLED634	TYPE: 99XLED634	WEIGHT: 1
SPEC.:	DIM.: 218 x218	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square 176 x176	Shielding Angle:



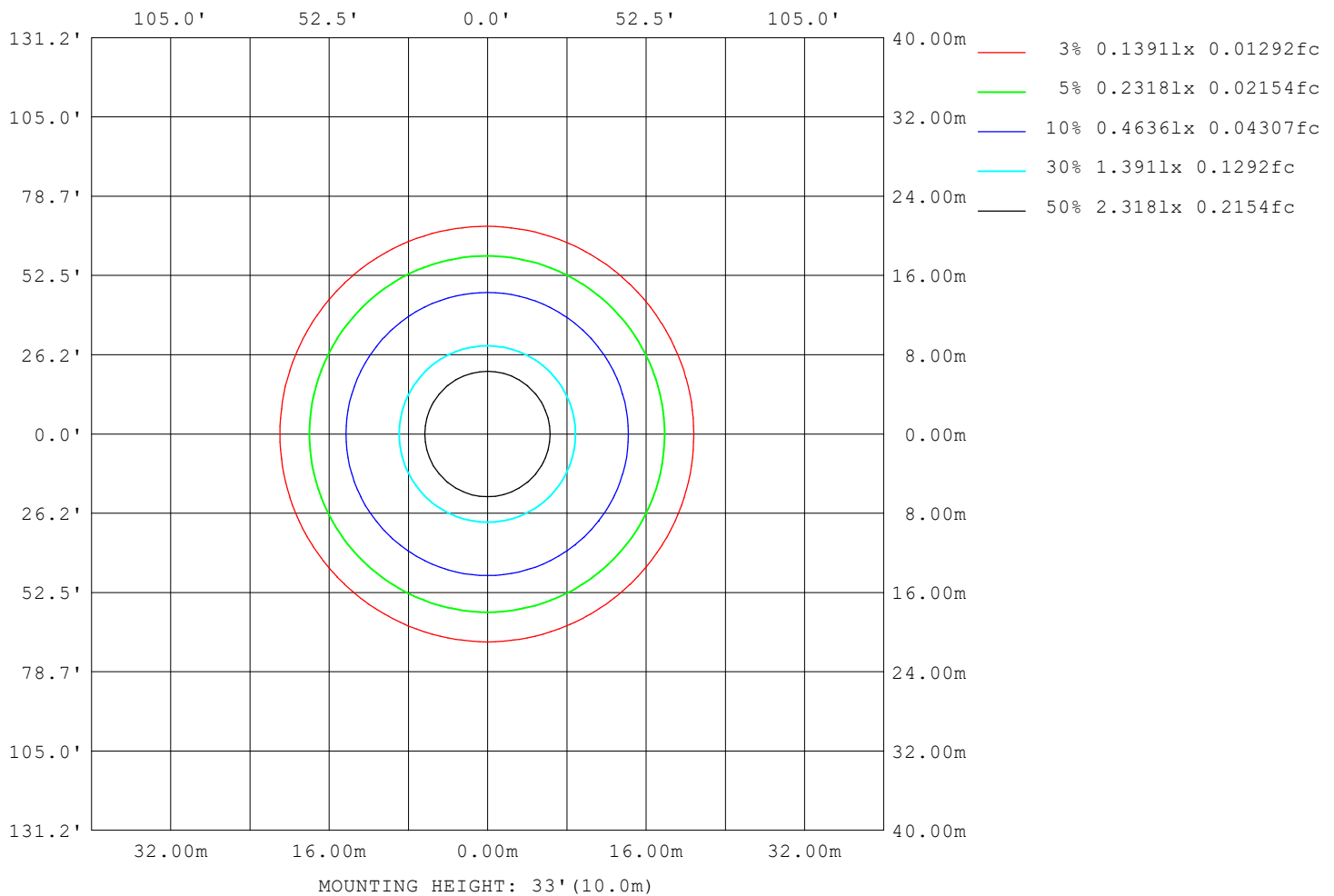
**Note:** The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 14 July 2022

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
 Humidity: 65.0%  
 Test Distance: 6.265m [K=1.0000]  
 Remarks:

**ISOLUX DIAGRAM**

NAME: 99XLED634	TYPE: 99XLED634	WEIGHT: 1
SPEC.:	DIM.: 218 x218	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square 176 x176	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 14 July 2022

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 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: 99XLED634	TYPE: 99XLED634	WEIGHT: 1
SPEC.:	DIM.: 218 x218	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square 176 x176	Shielding Angle:

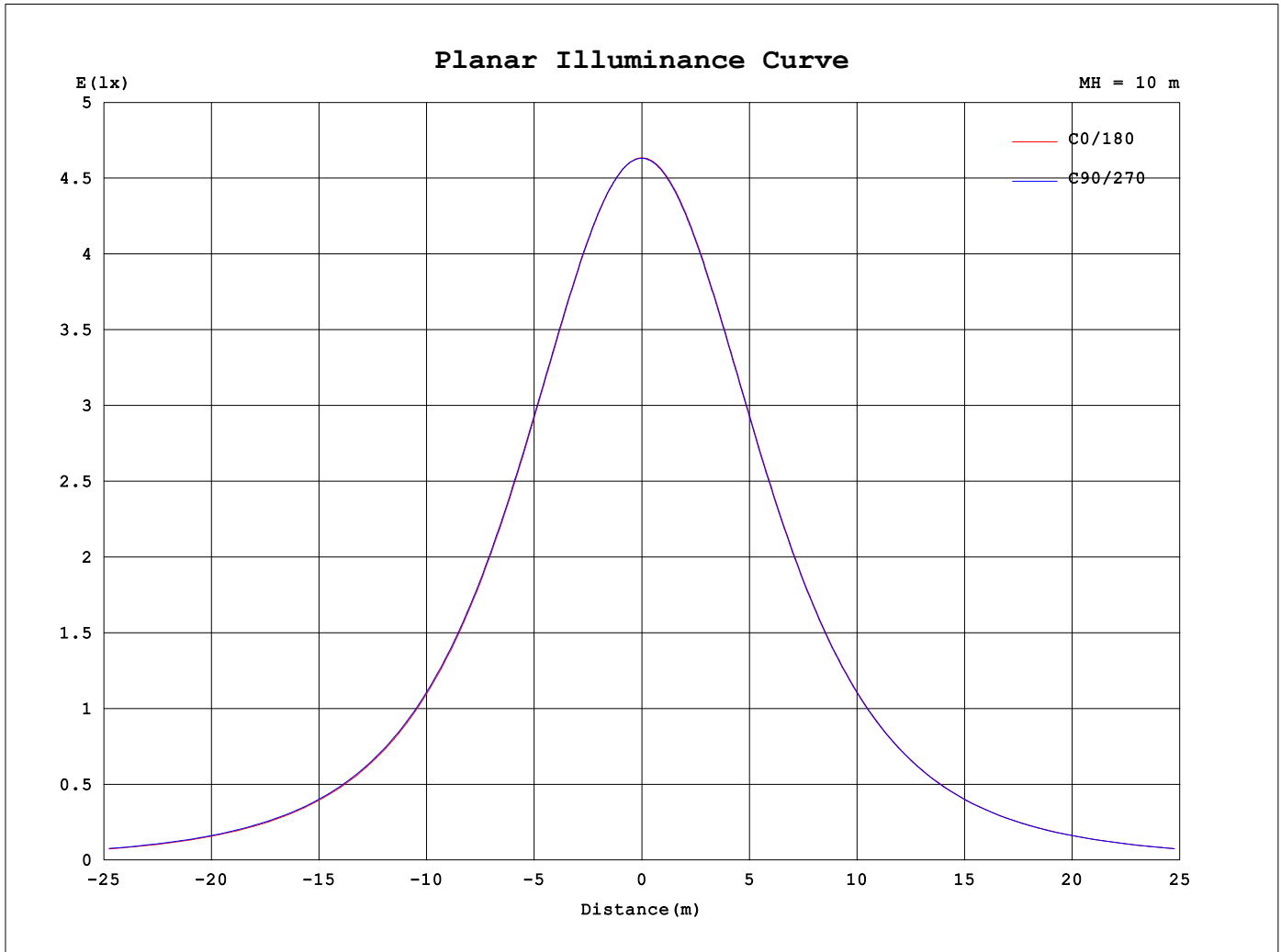
AvgL	cd/m2
L_0~180 (65) av	12838
L_0~180 (75) av	11440
L_0~180 (85) av	8792
L_90~270 (65) av	13016
L_90~270 (75) av	11801
L_90~270 (85) av	9931
L_45 (65) av	12919
L_45 (75) av	11608
L_45 (85) av	9334

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:14 July 2022

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
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: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 14 July 2022

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 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: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:6.265m [K=1.0000]
Remarks:

```