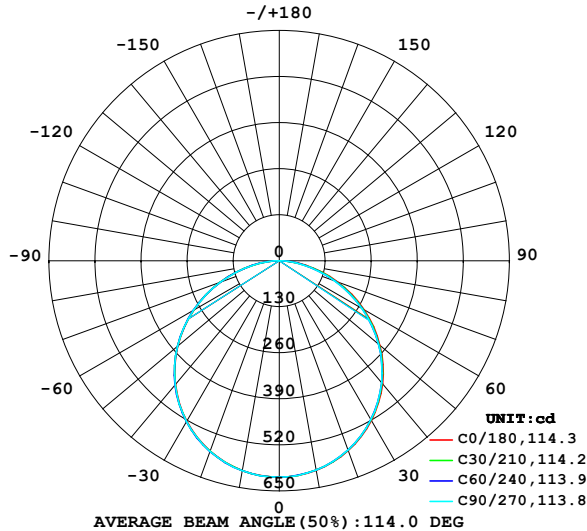


## LUMINAIRE PHOTOMETRIC TEST REPORT

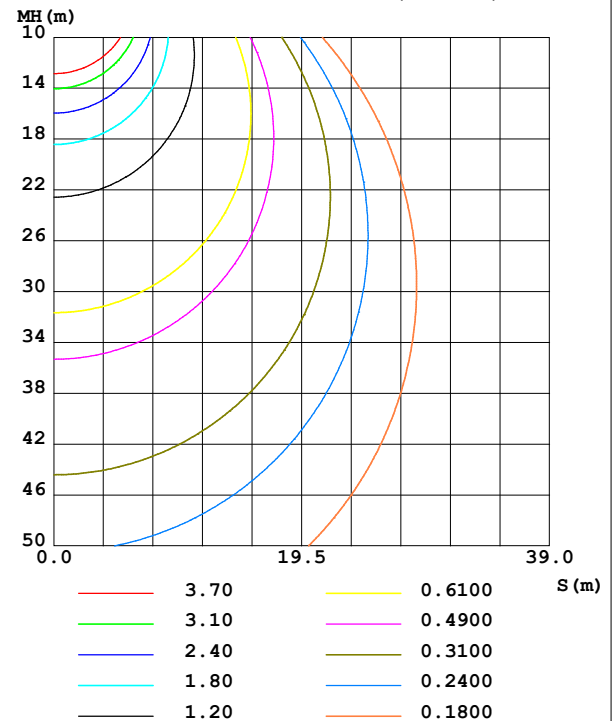
NAME: 99XLED639CW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: round F300	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99XLED639CW	Imax (cd)	611.2	S/MH (C0/180)	1.27
NOMINAL POWER (W)	24	LOR (%)	89.2	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	1783.4	$\eta$ UP, DN (C0-180)	0.0, 44.2
NOMINAL FLUX (lm)	2000	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0, 45.0
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	$\eta$ down (%)	89.2	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature: 25.3°C  
Operators:  
Test Date: 26 October 2022

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	600.5	599.9	599.9	600.6	601.5	602.0	602.0	601.4	0- 10	57.85	57.85	3.24,2.89
20	570.0	568.7	568.5	570.0	571.7	572.8	572.6	571.6	10- 20	166.1	223.9	12.6,11.2
30	520.8	518.4	517.9	520.1	522.9	524.2	523.9	522.7	20- 30	252.7	476.7	26.7,23.8
40	453.7	450.5	449.8	452.6	456.2	457.8	457.4	456.1	30- 40	306.4	783.1	43.9,39.2
50	371.2	367.3	366.2	369.3	373.8	375.5	375.1	373.7	40- 50	319.8	1103	61.8,55.1
60	276.4	271.6	269.7	273.5	278.8	280.4	279.7	278.6	50- 60	290.4	1393	78.1,69.7
70	175.2	169.6	166.3	171.1	177.0	177.9	176.3	176.5	60- 70	222.9	1616	90.6,80.8
80	76.95	71.86	68.51	72.81	77.86	78.33	76.07	77.45	70- 80	130.2	1746	97.9,87.3
90	1.037	1.035	1.018	1.021	0.8951	0.8945	0.9092	0.8916	80- 90	37.10	1783	100,89.2
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): 943.98 lm

%lum = 52.9%

%lamp = 47.2%

Conical surface Flux(130deg): 1515.2 lm

%lum = 85.0%

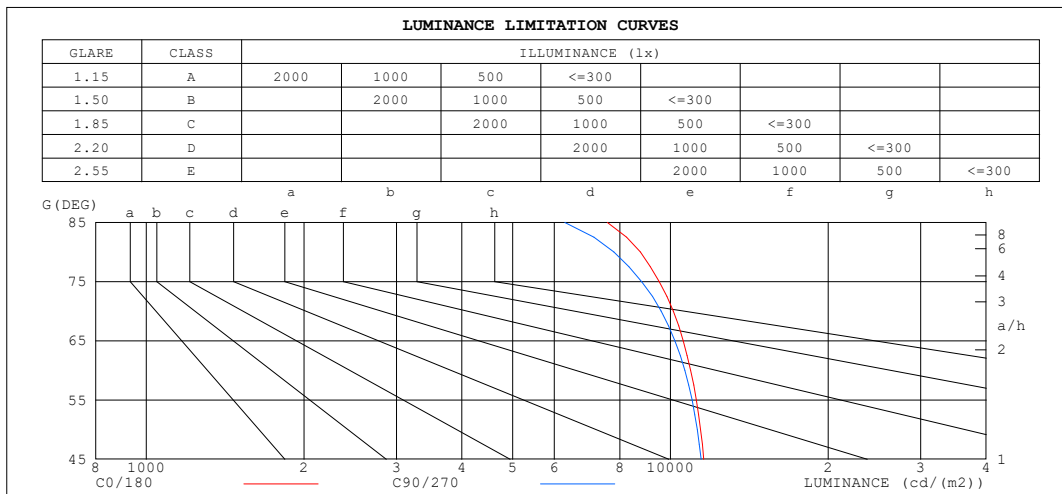
%lamp = 75.8%

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:26 October 2022

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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: 99XLED639CW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: round F300	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	7579	6287
80	8755	7790
75	9512	8809
70	10119	9601
65	10577	10191
60	10923	10652
55	11200	10994
50	11409	11248
45	11574	11441

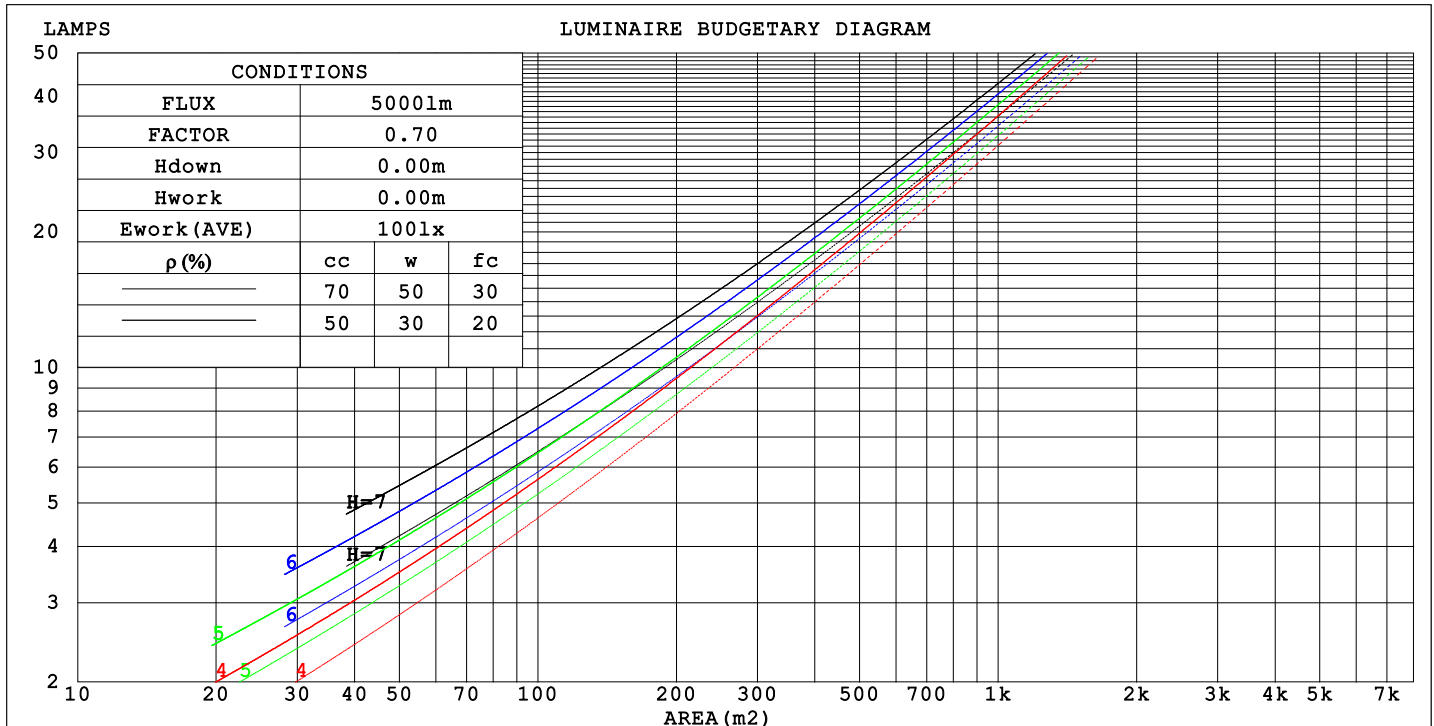
C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: MEDIUM  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 26 October 2022

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: 99XLED639CW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: round F300	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:26 October 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: 99XLED639CW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: round F300	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	.280	.159	.050	.274	.156	.050	.262	.150	.048	.251	.145	.046	.241	.140	.045	
2.0	.263	.144	.044	.257	.142	.044	.247	.137	.043	.237	.133	.042	.228	.129	.041	
3.0	.243	.129	.039	.238	.127	.038	.229	.124	.038	.220	.121	.037	.212	.117	.036	
4.0	.224	.116	.034	.220	.115	.034	.211	.112	.033	.204	.109	.033	.197	.107	.033	
5.0	.207	.105	.031	.203	.104	.030	.196	.102	.030	.189	.100	.030	.183	.098	.029	
6.0	.192	.096	.027	.188	.095	.027	.182	.093	.027	.176	.091	.027	.170	.089	.027	
7.0	.178	.088	.025	.175	.087	.025	.169	.086	.025	.164	.084	.024	.159	.083	.024	
8.0	.166	.081	.023	.164	.081	.023	.158	.079	.023	.154	.078	.022	.149	.077	.022	
9.0	.156	.075	.021	.153	.075	.021	.149	.074	.021	.144	.072	.021	.140	.071	.021	
10.0	.146	.070	.019	.144	.070	.019	.140	.069	.019	.136	.068	.019	.132	.067	.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	.170	.170	.170	.145	.145	.145	.099	.099	.099	.057	.057	.057	.018	.018	.018	
1.0	.161	.139	.120	.138	.119	.103	.094	.082	.071	.054	.048	.041	.017	.015	.013	
2.0	.154	.118	.087	.132	.101	.075	.090	.070	.052	.052	.041	.031	.017	.013	.010	
3.0	.147	.102	.066	.126	.088	.057	.087	.061	.040	.050	.036	.024	.016	.012	.008	
4.0	.140	.090	.052	.120	.078	.045	.083	.054	.032	.048	.032	.019	.015	.010	.006	
5.0	.134	.081	.042	.115	.070	.036	.079	.049	.026	.046	.029	.015	.015	.009	.005	
6.0	.127	.073	.035	.109	.064	.030	.075	.044	.021	.044	.026	.013	.014	.009	.004	
7.0	.121	.067	.029	.104	.058	.026	.072	.041	.018	.042	.024	.011	.014	.008	.004	
8.0	.115	.062	.025	.099	.054	.022	.069	.038	.016	.040	.022	.009	.013	.007	.003	
9.0	.110	.058	.022	.095	.050	.020	.066	.035	.014	.038	.021	.008	.012	.007	.003	
10.0	.105	.054	.020	.090	.047	.017	.063	.033	.012	.037	.019	.007	.012	.006	.002	

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:26 October 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: 99XLED639CW					TYPE:					WEIGHT: 1				
SPEC.:					DIM.: round F300					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	18.8	20.4	19.1	20.6	20.8	18.7	20.3	19.0	20.5	20.7				
3H	20.4	21.8	20.7	22.1	22.3	20.2	21.6	20.5	21.9	22.1				
4H	21.0	22.4	21.4	22.6	22.9	20.8	22.2	21.1	22.4	22.7				
6H	21.5	22.8	21.8	23.1	23.3	21.2	22.5	21.5	22.8	23.0				
8H	21.7	22.9	22.0	23.2	23.5	21.3	22.6	21.7	22.8	23.1				
12H	21.7	22.9	22.1	23.2	23.5	21.4	22.6	21.7	22.9	23.2				
4H 2H	19.4	20.8	19.8	21.0	21.3	19.4	20.7	19.7	21.0	21.2				
3H	21.2	22.4	21.5	22.7	23.0	21.0	22.2	21.4	22.5	22.8				
4H	21.9	23.0	22.3	23.3	23.7	21.7	22.8	22.1	23.1	23.5				
6H	22.5	23.5	22.9	23.9	24.2	22.3	23.2	22.7	23.6	23.9				
8H	22.7	23.6	23.2	24.0	24.4	22.4	23.3	22.8	23.7	24.1				
12H	22.9	23.7	23.3	24.1	24.5	22.5	23.3	22.9	23.7	24.1				
8H 4H	22.2	23.1	22.6	23.5	23.8	22.0	22.9	22.4	23.3	23.7				
6H	22.9	23.7	23.4	24.1	24.5	22.7	23.4	23.1	23.8	24.3				
8H	23.2	23.9	23.7	24.3	24.8	22.9	23.6	23.4	24.0	24.5				
12H	23.4	24.0	23.9	24.5	24.9	23.1	23.7	23.6	24.1	24.6				
12H 4H	22.2	23.0	22.6	23.4	23.8	22.0	22.8	22.5	23.2	23.6				
6H	23.0	23.7	23.5	24.1	24.5	22.7	23.4	23.2	23.8	24.3				
8H	23.3	23.9	23.8	24.3	24.8	23.0	23.6	23.5	24.0	24.5				
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	+ 0.2 / - 0.3					+ 0.2 / - 0.3								

CIE Pub.117, 2000 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.4)  
Area: 0.050645 m2

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:26 October 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: 99XLED639CW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: round F300	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:

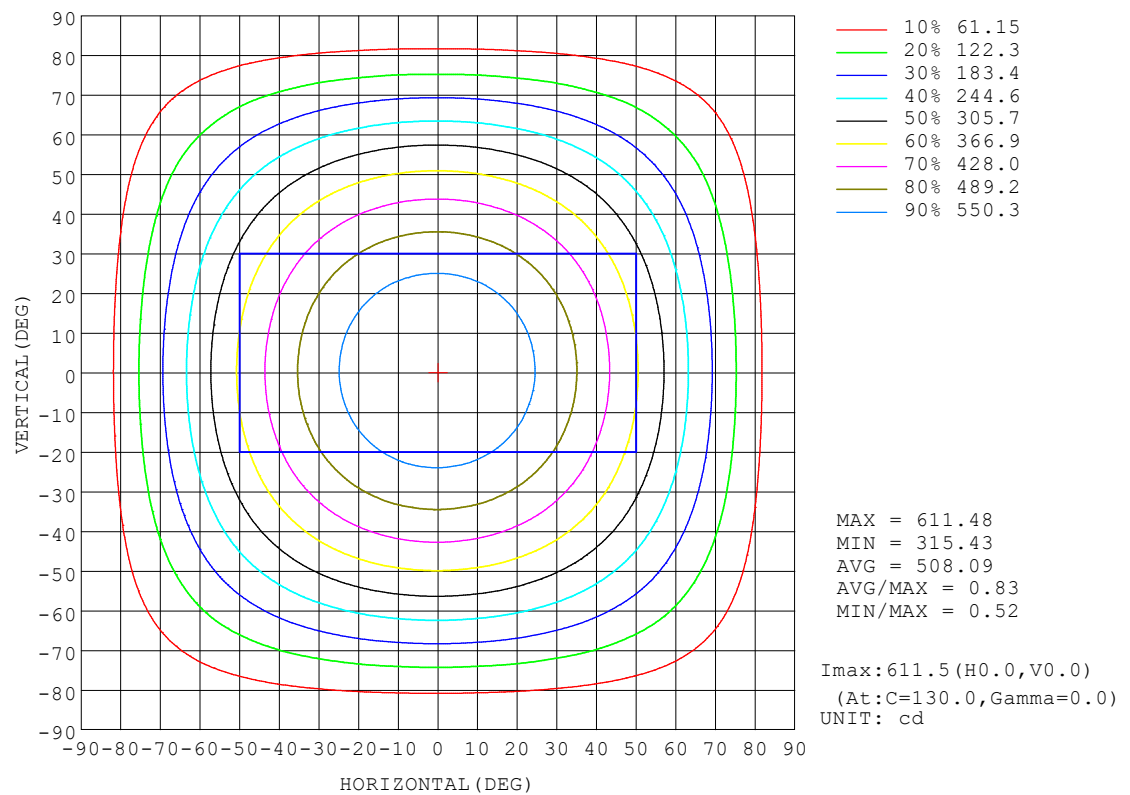
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	51	41	34	50	40	34	49	40	34	28
0.80	60	49	43	59	49	43	57	48	42	36
1.00	67	57	51	66	57	51	64	58	50	44
1.25	74	64	58	72	64	57	70	62	57	50
1.50	78	69	63	77	69	63	74	67	62	55
2.00	84	77	71	83	76	70	80	74	69	62
2.50	88	81	75	86	80	75	83	77	73	66
3.00	91	85	80	89	83	79	85	81	77	69
4.00	95	89	85	92	88	84	89	85	82	74
5.00	97	92	89	95	91	87	91	87	85	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: 26 October 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: 99XLED639CW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: round F300	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:



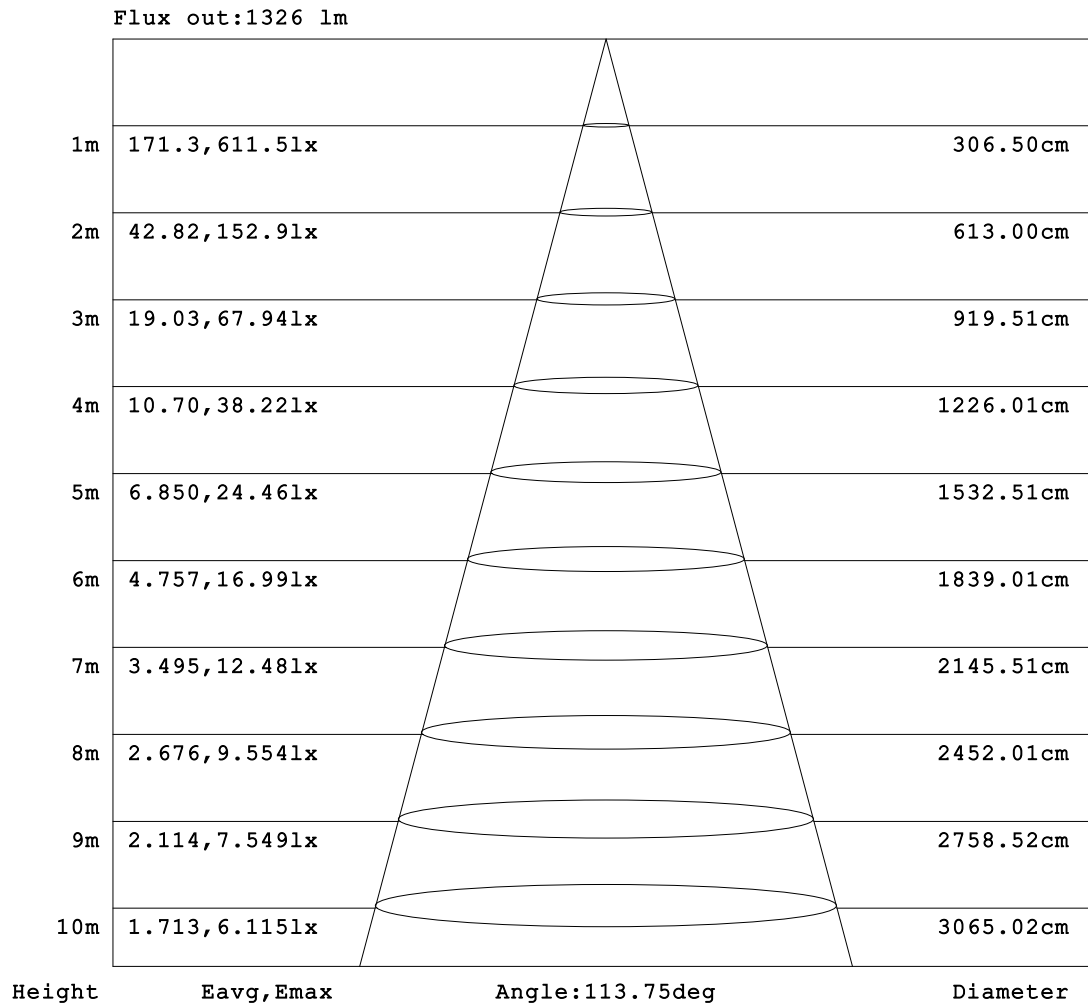
C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: MEDIUM  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 26 October 2022

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: 99XLED639CW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: round F300	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:



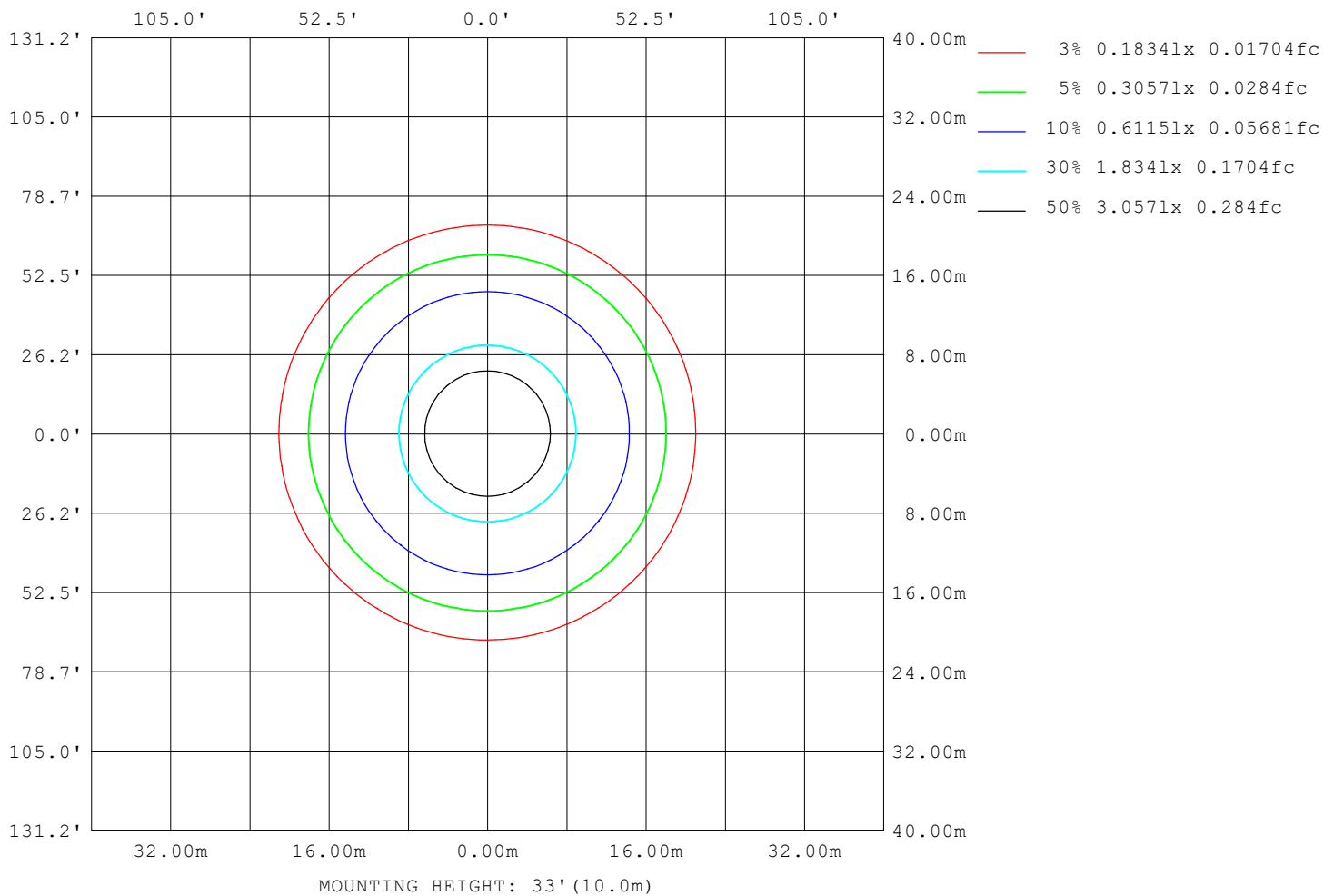
**Note:** The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: MEDIUM  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 26 October 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: 99XLED639CW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: round F300	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: 26 October 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: 99XLED639CW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: round F300	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:

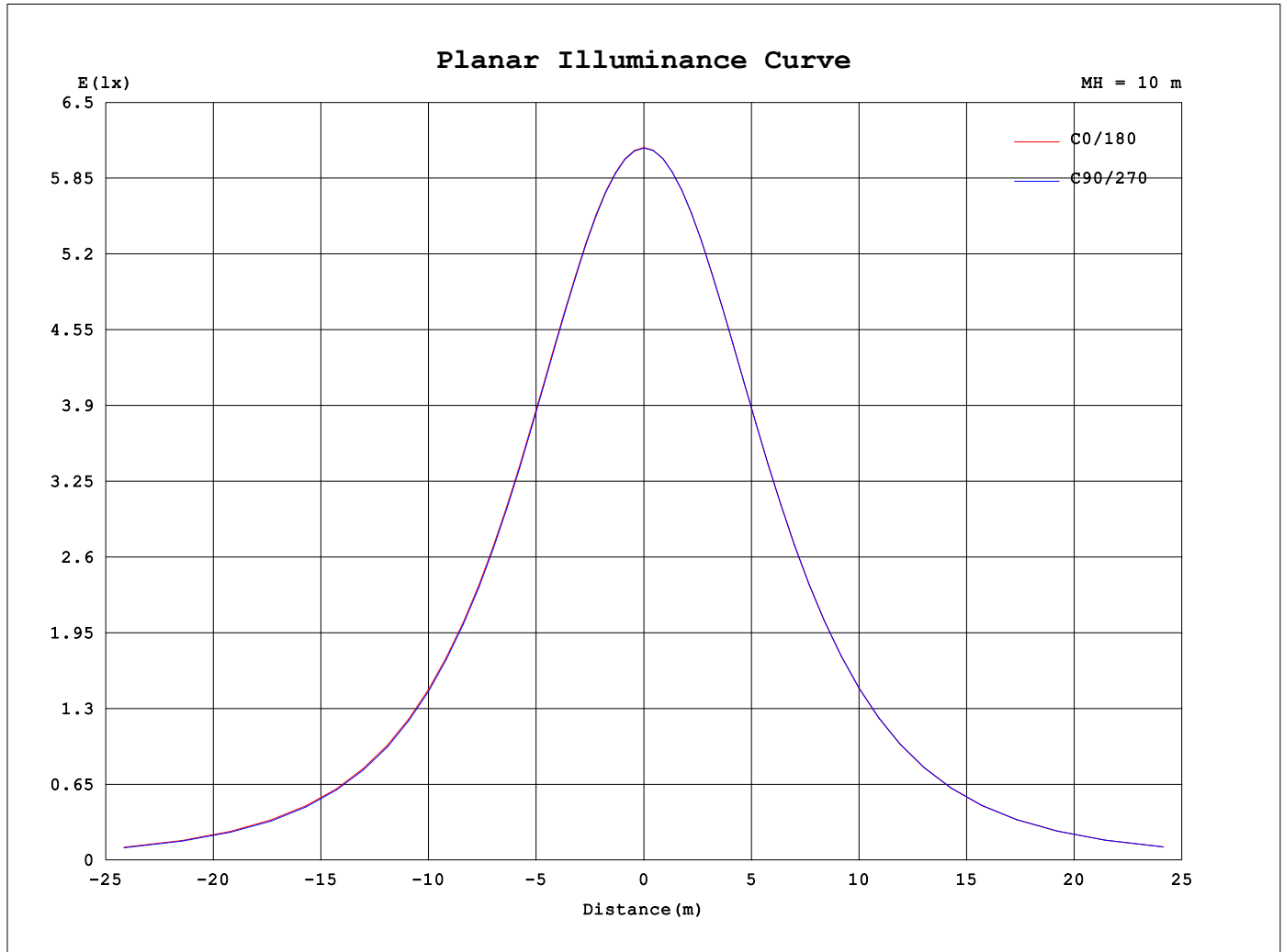
AvgL	cd/m2
L_0~180 (65) av	10621
L_0~180 (75) av	9575
L_0~180 (85) av	7643
L_90~270 (65) av	10434
L_90~270 (75) av	9152
L_90~270 (85) av	6928
L_45 (65) av	10526
L_45 (75) av	9381
L_45 (85) av	7333

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:26 October 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: 26 October 2022

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:

```

```

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:

```