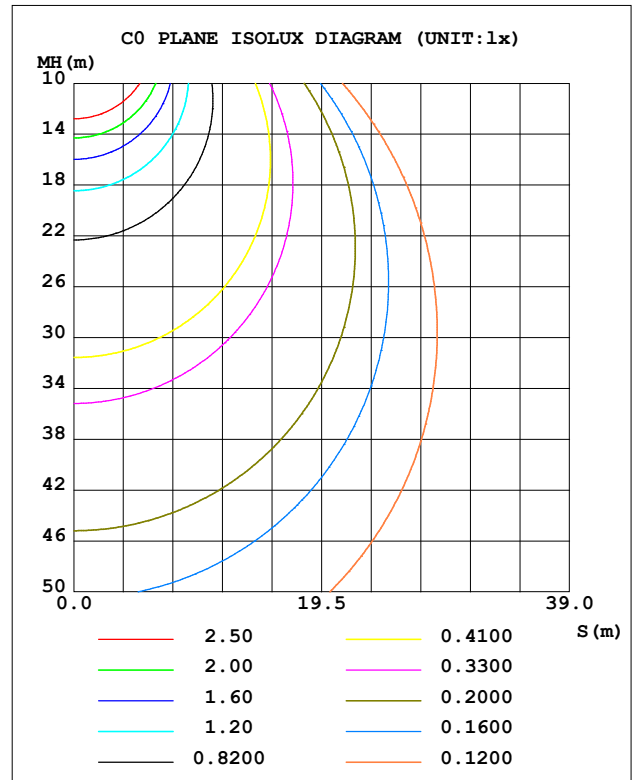
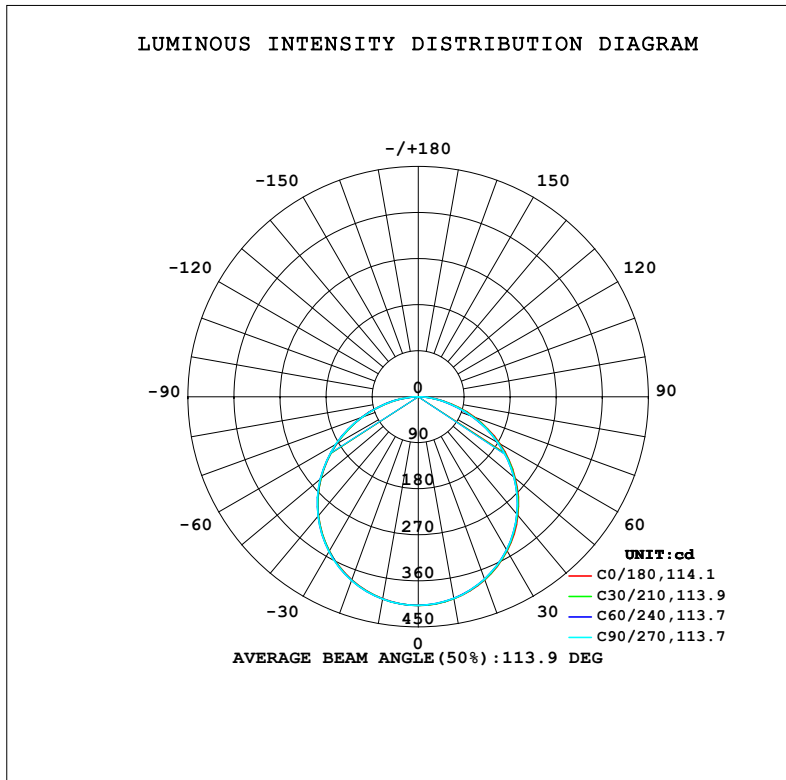


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 99XLED638WW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99XLED638WW	I _{max} (cd)	407.8	S/MH (C0/180)	1.27
NOMINAL POWER (W)	18	LOR (%)	74.3	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	1188.7	η UP, DN (C0-180)	0.0, 36.8
NOMINAL FLUX (lm)	1600	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 37.5
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	74.3	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
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:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	400.9	400.5	400.3	400.5	401.0	401.4	401.6	401.5	0- 10	38.60	38.60	3.25,2.41
20	380.8	379.7	379.3	379.9	381.0	381.6	382.0	381.9	10- 20	110.8	149.4	12.6,9.34
30	347.8	346.2	345.6	346.6	348.1	348.9	349.4	349.4	20- 30	168.6	318.0	26.8,19.9
40	303.2	300.9	300.2	301.5	303.4	304.3	305.0	305.1	30- 40	204.4	522.4	43.9,32.6
50	248.0	245.2	244.3	246.0	248.2	249.2	249.9	250.2	40- 50	213.2	735.6	61.9,46
60	184.6	181.1	180.2	182.3	184.7	185.4	186.2	186.9	50- 60	193.5	929.1	78.2,58.1
70	116.7	112.4	111.6	114.3	116.8	116.7	117.5	119.1	60- 70	148.4	1078	90.7,67.3
80	51.16	47.18	46.15	48.76	50.68	50.11	51.00	52.91	70- 80	86.57	1164	97.9,72.8
90	0.6794	0.6774	0.6754	0.6837	0.5924	0.5808	0.6121	0.5979	80- 90	24.55	1189	100,74.3
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): 629.68 lm

%lum = 53.0%
%lamp = 39.4%

Conical surface Flux(130deg): 1010.3 lm

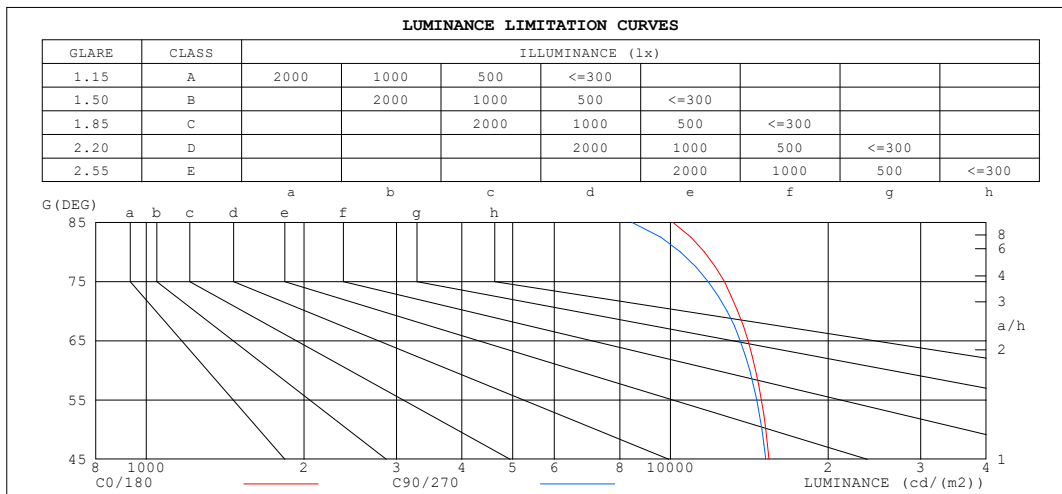
%lum = 85.0%
%lamp = 63.1%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
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:

LUMINANCE LIMITATION CURVES

NAME: 99XLED638WW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	10112	8445
80	11602	10445
75	12667	11792
70	13437	12818
65	14065	13586
60	14538	14160
55	14910	14601
50	15196	14939
45	15415	15198

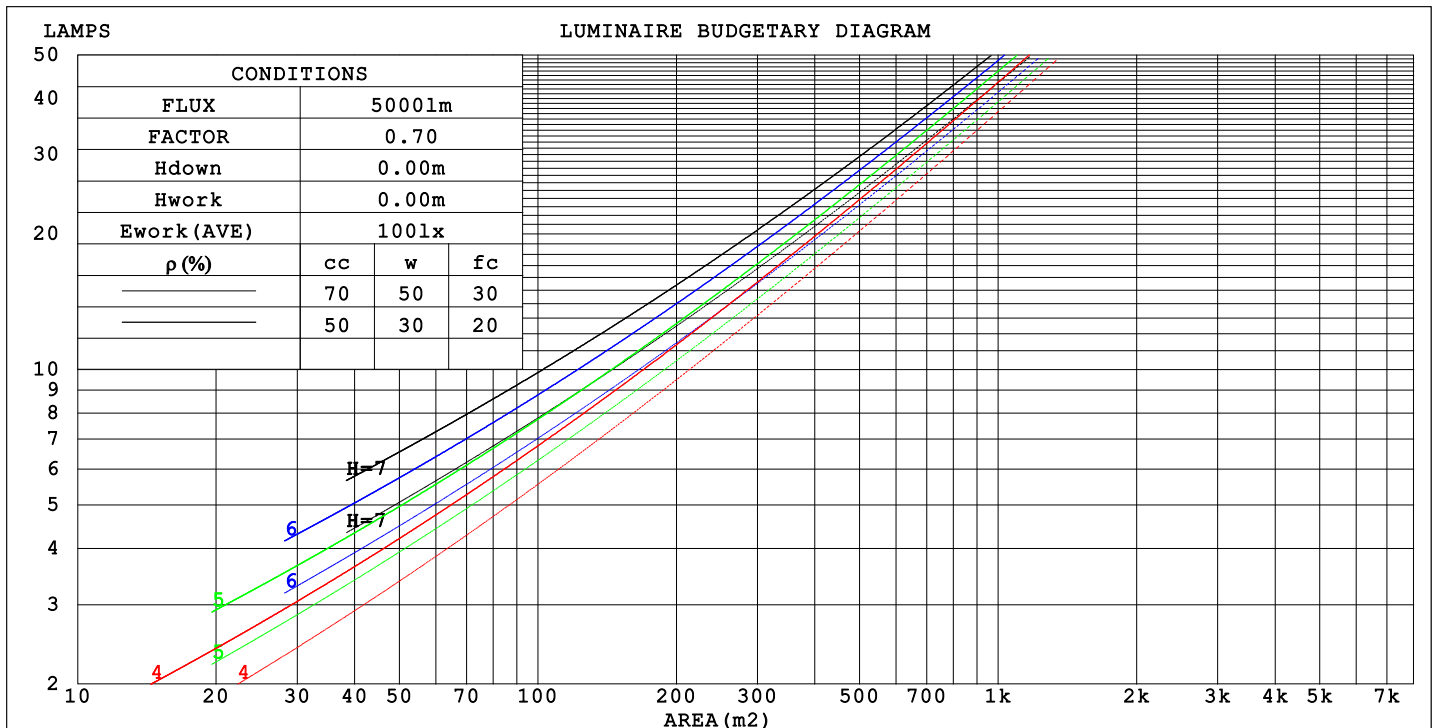
C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators:
 Test Date: 26 October 2022

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: 99XLED638WW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 225	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: HIGH
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: 99XLED638WW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 225	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	.233	.133	.042	.228	.130	.041	.218	.125	.040	.209	.121	.039	.201	.116	.037	
2.0	.219	.120	.037	.214	.118	.036	.206	.114	.035	.198	.111	.035	.190	.108	.034	
3.0	.202	.108	.032	.198	.106	.032	.190	.103	.031	.183	.100	.031	.177	.098	.030	
4.0	.186	.097	.028	.183	.096	.028	.176	.093	.028	.170	.091	.027	.164	.089	.027	
5.0	.172	.088	.025	.169	.087	.025	.163	.085	.025	.157	.083	.025	.152	.081	.024	
6.0	.160	.080	.023	.157	.079	.023	.151	.078	.023	.146	.076	.022	.142	.075	.022	
7.0	.148	.073	.021	.146	.073	.021	.141	.071	.021	.137	.070	.020	.132	.069	.020	
8.0	.139	.068	.019	.136	.067	.019	.132	.066	.019	.128	.065	.019	.124	.064	.019	
9.0	.130	.063	.018	.128	.062	.017	.124	.061	.017	.120	.060	.017	.117	.059	.017	
10.0	.122	.059	.016	.120	.058	.016	.117	.057	.016	.113	.056	.016	.110	.055	.016	

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	.142	.142	.142	.121	.121	.121	.083	.083	.083	.047	.047	.047	.015	.015	.015	
1.0	.134	.116	.100	.115	.100	.086	.079	.068	.059	.045	.040	.034	.014	.013	.011	
2.0	.128	.098	.073	.110	.084	.063	.075	.058	.044	.043	.034	.026	.014	.011	.008	
3.0	.123	.085	.055	.105	.073	.048	.072	.051	.033	.042	.030	.020	.013	.010	.006	
4.0	.117	.075	.043	.100	.065	.037	.069	.045	.026	.040	.026	.016	.013	.009	.005	
5.0	.111	.067	.035	.096	.058	.030	.066	.041	.021	.038	.024	.013	.012	.008	.004	
6.0	.106	.061	.029	.091	.053	.025	.063	.037	.018	.036	.022	.011	.012	.007	.004	
7.0	.101	.056	.025	.087	.049	.021	.060	.034	.015	.035	.020	.009	.011	.007	.003	
8.0	.096	.052	.021	.083	.045	.019	.057	.031	.013	.033	.019	.008	.011	.006	.003	
9.0	.092	.048	.019	.079	.042	.016	.055	.029	.012	.032	.017	.007	.010	.006	.002	
10.0	.087	.045	.017	.075	.039	.014	.052	.027	.010	.030	.016	.006	.010	.005	.002	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
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: 99XLED638WW					TYPE:			WEIGHT: 1			
SPEC.:					DIM.: F 225			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	20.6	22.2	20.9	22.4	22.6	20.5	22.0	20.8	22.2	22.5
	3H	22.2	23.6	22.5	23.8	24.1	22.0	23.4	22.3	23.7	23.9
	4H	22.8	24.2	23.1	24.4	24.7	22.6	23.9	22.9	24.2	24.4
	6H	23.3	24.5	23.6	24.8	25.1	23.0	24.3	23.3	24.5	24.8
	8H	23.4	24.7	23.8	24.9	25.2	23.1	24.3	23.4	24.6	24.9
	12H	23.5	24.7	23.9	25.0	25.3	23.2	24.3	23.5	24.6	24.9
4H	2H	21.2	22.6	21.5	22.8	23.1	21.1	22.5	21.4	22.7	23.0
	3H	22.9	24.1	23.3	24.4	24.7	22.8	24.0	23.1	24.3	24.6
	4H	23.7	24.8	24.1	25.1	25.4	23.5	24.6	23.9	24.9	25.2
	6H	24.3	25.3	24.7	25.6	26.0	24.0	25.0	24.4	25.3	25.7
	8H	24.5	25.4	24.9	25.8	26.1	24.2	25.1	24.6	25.5	25.8
	12H	24.6	25.5	25.1	25.8	26.3	24.3	25.1	24.7	25.5	25.9
8H	4H	23.9	24.8	24.4	25.2	25.6	23.8	24.7	24.2	25.0	25.4
	6H	24.7	25.4	25.1	25.8	26.3	24.4	25.2	24.9	25.6	26.0
	8H	25.0	25.6	25.4	26.1	26.5	24.7	25.3	25.1	25.8	26.2
	12H	25.2	25.8	25.7	26.2	26.7	24.8	25.4	25.3	25.9	26.3
12H	4H	24.0	24.8	24.4	25.2	25.6	23.8	24.6	24.2	25.0	25.4
	6H	24.7	25.4	25.2	25.8	26.3	24.5	25.2	24.9	25.6	26.0
	8H	25.1	25.6	25.5	26.1	26.6	24.8	25.3	25.3	25.8	26.3
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, 1600 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.6)
Area: 0.025434 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
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: 99XLED638WW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:

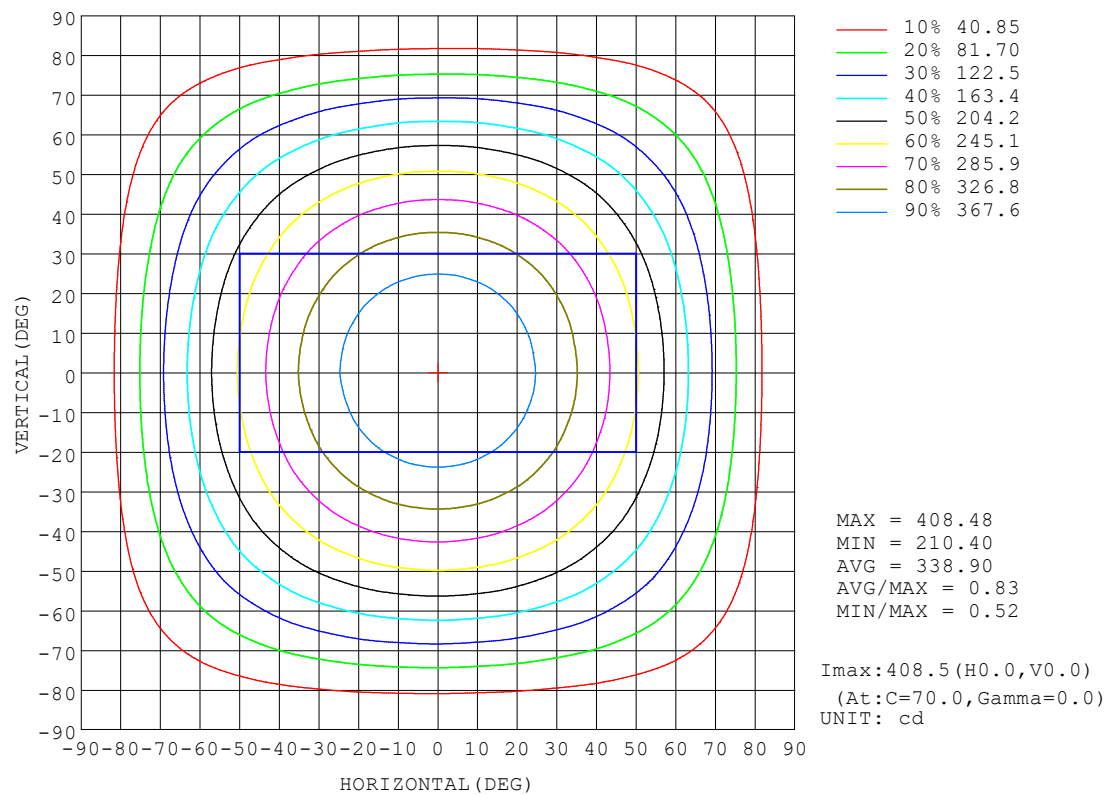
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	42	34	29	42	34	28	41	33	28	24
0.80	50	41	36	49	41	36	48	40	35	30
1.00	56	48	42	55	47	42	54	48	42	36
1.25	61	54	48	60	53	48	58	52	47	42
1.50	65	58	52	64	57	52	62	56	51	46
2.00	70	64	59	69	63	58	66	61	57	51
2.50	73	67	63	72	66	62	69	64	61	55
3.00	76	71	66	74	69	66	71	67	64	58
4.00	79	74	71	77	73	70	74	71	68	61
5.00	81	77	74	79	76	73	75	73	70	64
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: HIGH
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: 99XLED638WW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:

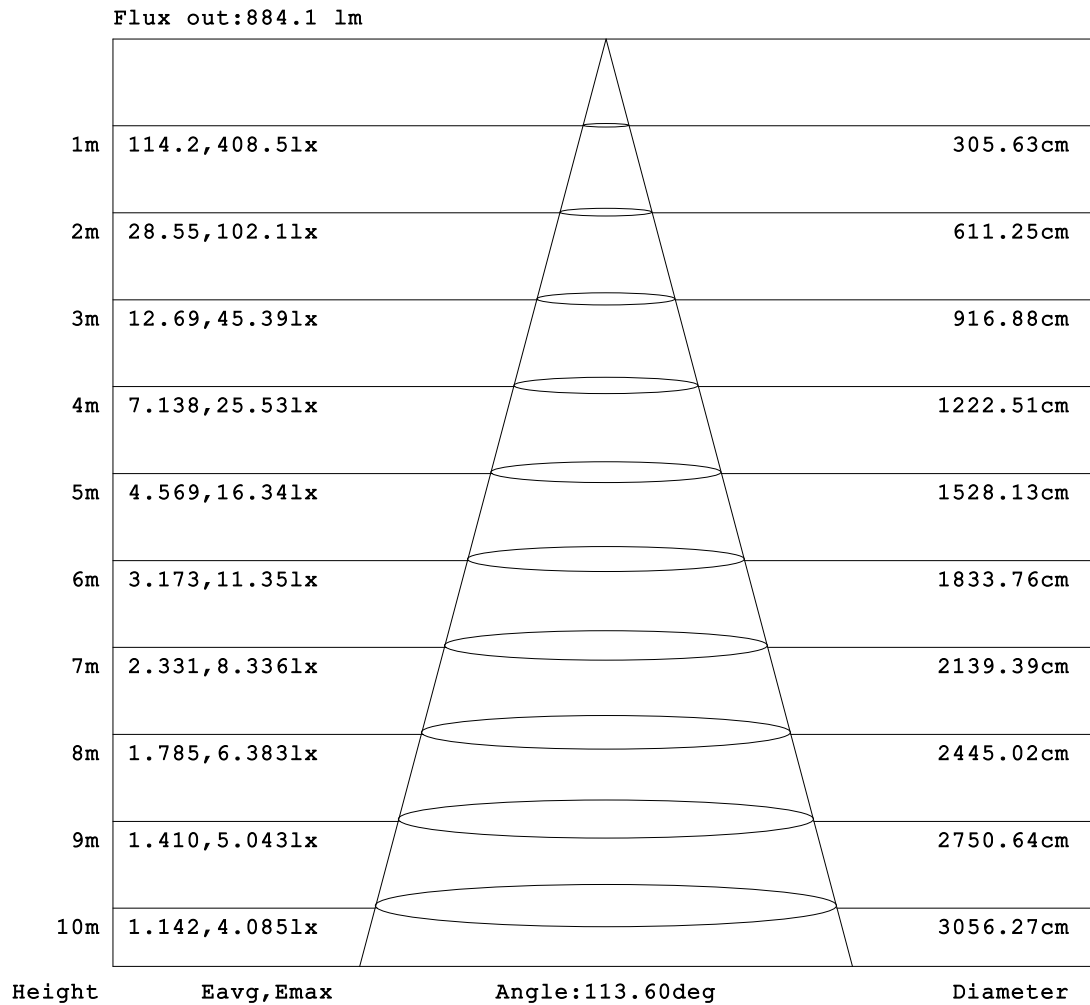


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators:
Test Date: 26 October 2022

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: 99XLED638WW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:



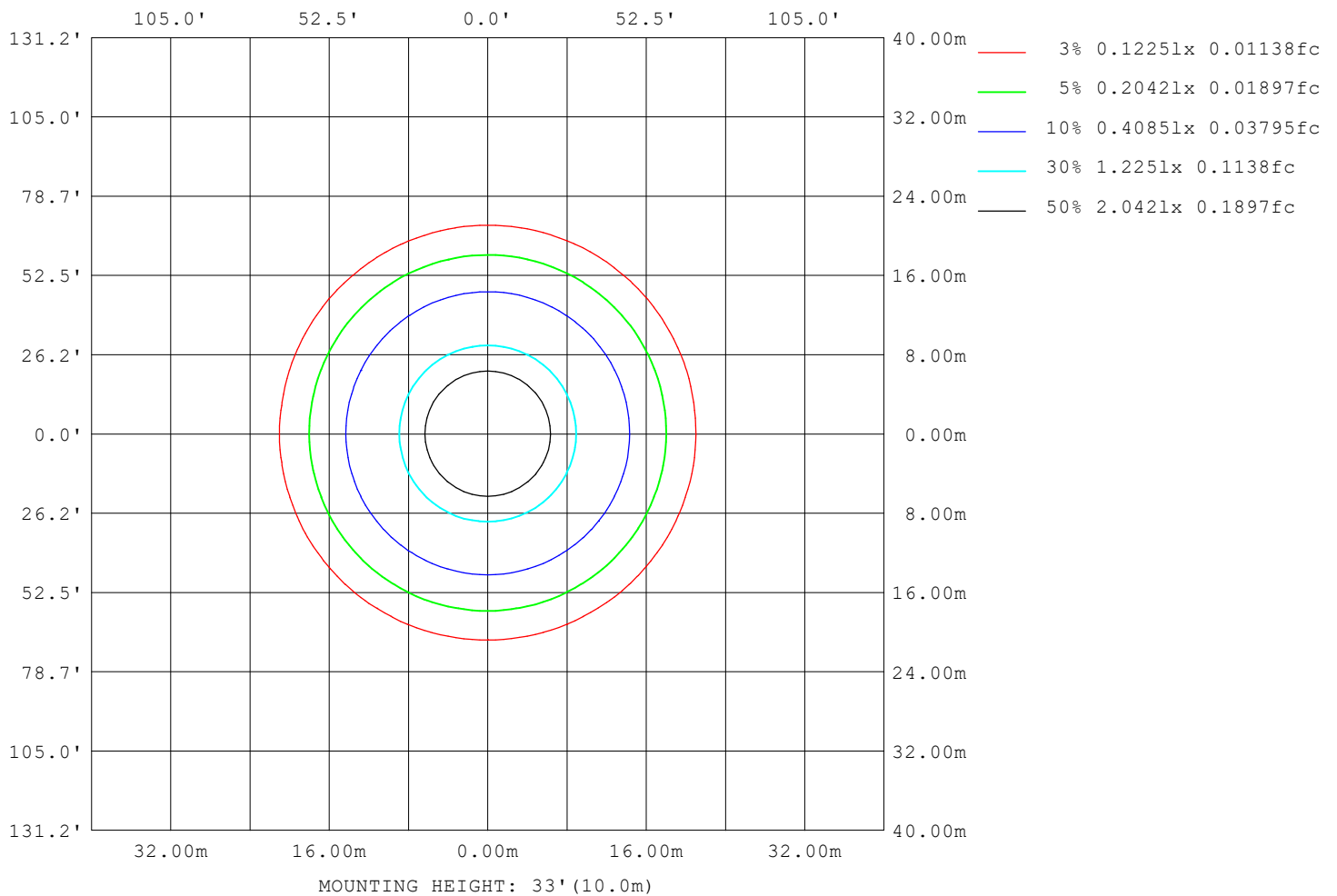
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 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: 99XLED638WW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 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: 99XLED638WW	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:

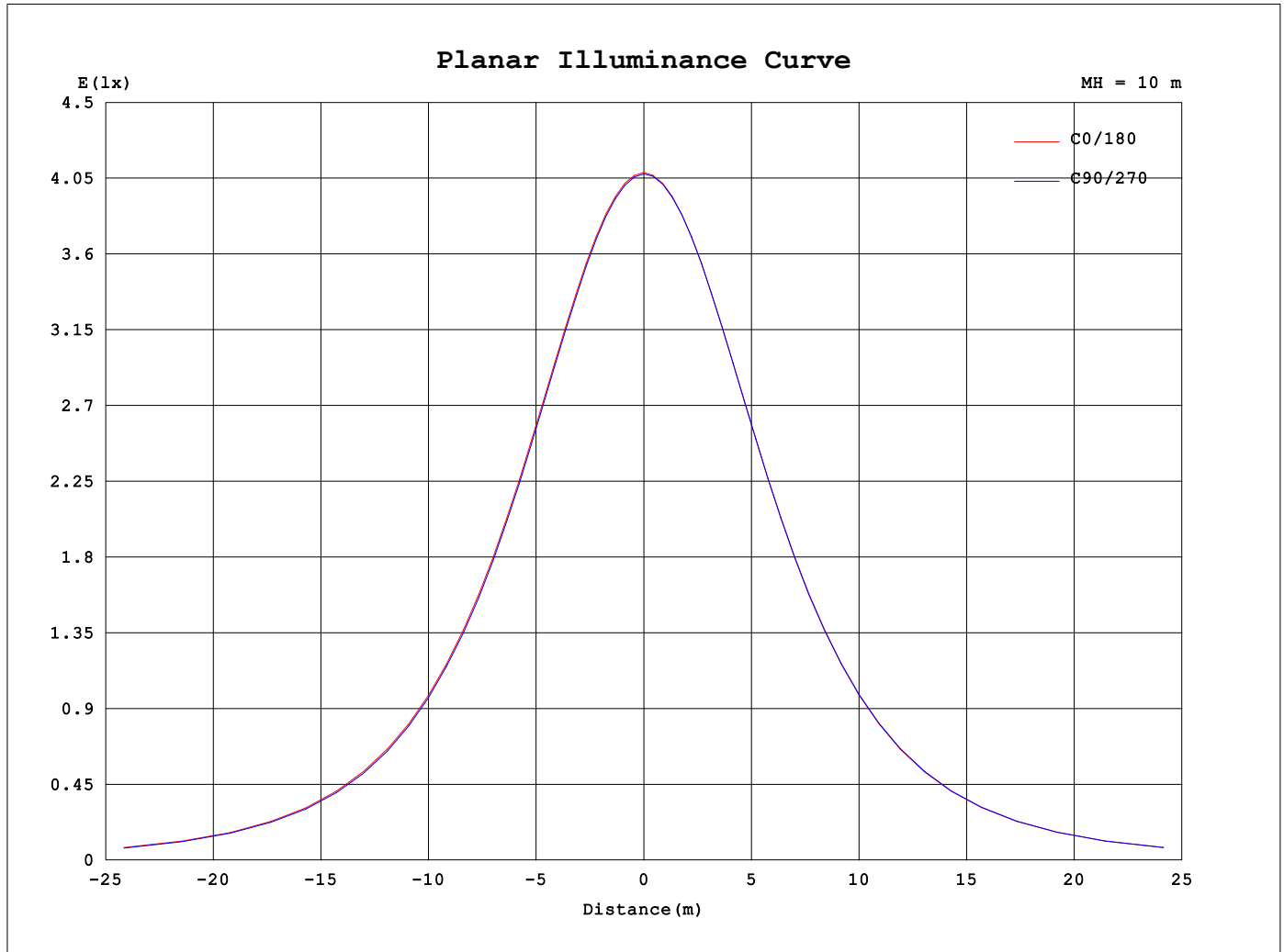
AvgL	cd/m2
L_0~180 (65) av	14053
L_0~180 (75) av	12618
L_0~180 (85) av	9933
L_90~270 (65) av	13877
L_90~270 (75) av	12237
L_90~270 (85) av	9305
L_45 (65) av	13966
L_45 (75) av	12419
L_45 (85) av	9628

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
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: HIGH
 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:

```

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:

```