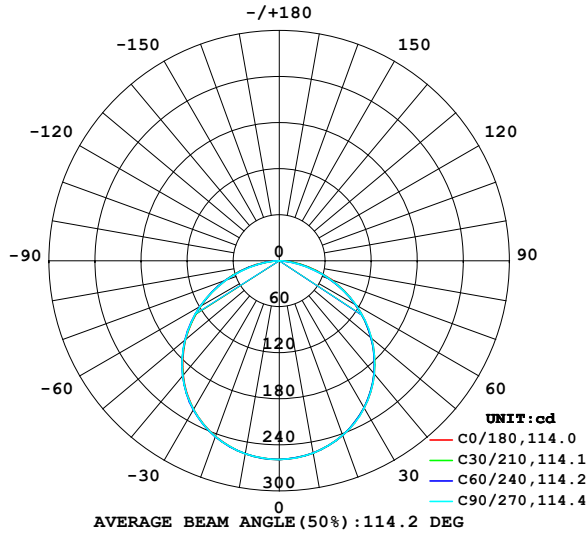


LUMINAIRE PHOTOMETRIC TEST REPORT

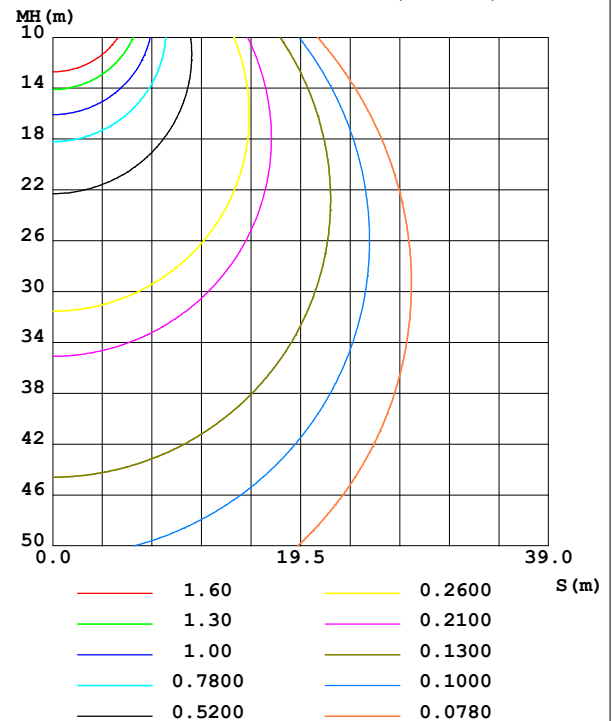
NAME: 99XLED612	TYPE: 99XLED612	WEIGHT: 1
SPEC.:	DIM.: F170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F125	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99XLED612	I _{max} (cd)	258.8	S/MH (C0/180)	1.28
NOMINAL POWER (W)	12	LOR (%)	89.5	S/MH (C90/270)	1.28
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	752.10	η UP, DN (C0-180)	0.0, 44.4
NOMINAL FLUX (lm)	840	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 45.1
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	89.5	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: 14 July 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	254.5	254.3	254.5	254.8	255.3	255.4	255.2	254.9	0- 10	24.52	24.52	3.26,2.92
20	242.1	241.8	242.1	242.8	243.5	243.9	243.7	242.9	10- 20	70.55	95.06	12.6,11.3
30	221.5	221.0	221.5	222.3	223.4	224.0	223.8	222.7	20- 30	107.7	202.8	27,24.1
40	192.7	192.1	192.7	193.7	195.0	195.9	195.8	194.4	30- 40	130.9	333.7	44.4,39.7
50	156.7	156.2	157.0	157.9	159.5	160.4	160.3	158.9	40- 50	136.4	470.1	62.5,56
60	115.3	114.7	115.6	116.7	118.1	119.1	119.3	117.9	50- 60	123.5	593.6	78.9,70.7
70	71.85	70.13	69.65	72.36	74.17	74.46	73.61	73.70	60- 70	93.91	687.5	91.4,81.8
80	29.69	26.70	24.57	28.39	31.01	30.24	28.16	29.79	70- 80	53.10	740.6	98.5,88.2
90	0.4142	0.4113	0.4028	0.4189	0.4387	0.3808	0.3537	0.3591	80- 90	11.48	752.1	100,89.5
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): 402.36 lm

%lum = 53.5%

%lamp = 47.9%

Conical surface Flux(130deg): 645.13 lm

%lum = 85.8%

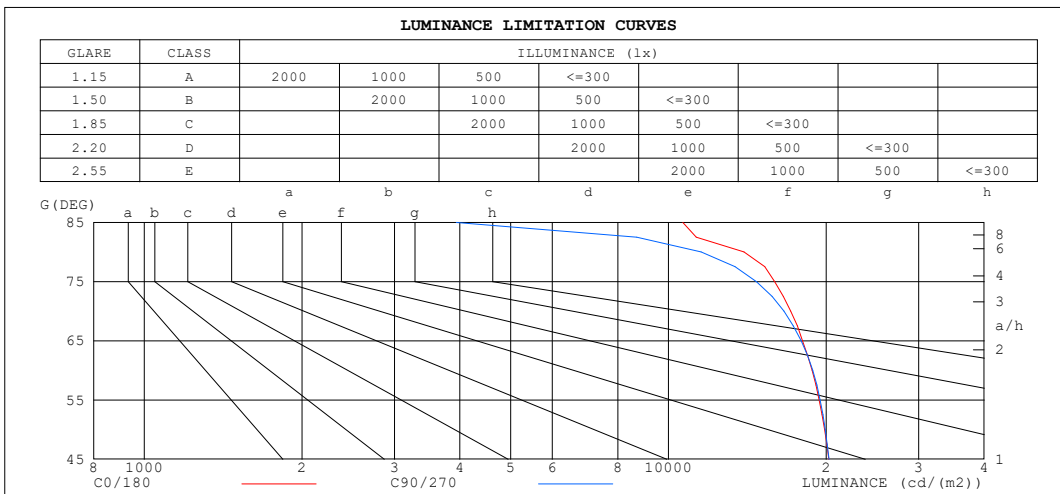
%lamp = 76.8%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:14 July 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: 99XLED612	TYPE: 99XLED612	WEIGHT: 1
SPEC.:	DIM.: F170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F125	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	10644	3934
80	13928	11536
75	15942	14722
70	17110	16604
65	18007	17904
60	18778	18846
55	19388	19458
50	19857	19916
45	20220	20240

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 14 July 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:

```

WEC AND CCEC

NAME: 99XLED612	TYPE: 99XLED612	WEIGHT: 1
SPEC.:	DIM.: F170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F125	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	.275	.156	.050	.269	.153	.049	.257	.147	.047	.246	.142	.046	.236	.137	.044	
2.0	.260	.143	.044	.255	.140	.043	.244	.136	.042	.235	.132	.041	.226	.128	.040	
3.0	.242	.129	.039	.237	.127	.038	.227	.123	.037	.219	.120	.037	.211	.117	.036	
4.0	.223	.116	.034	.219	.115	.034	.211	.112	.033	.203	.109	.033	.196	.106	.032	
5.0	.206	.105	.030	.203	.104	.030	.195	.102	.030	.189	.099	.030	.182	.097	.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	.167	.081	.023	.164	.081	.023	.159	.079	.023	.154	.078	.022	.149	.077	.022	
9.0	.156	.076	.021	.154	.075	.021	.149	.074	.021	.145	.072	.021	.140	.071	.021	
10.0	.147	.070	.020	.145	.070	.019	.140	.069	.019	.136	.068	.019	.133	.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	.171	.171	.171	.146	.146	.146	.099	.099	.099	.057	.057	.057	.018	.018	.018	
1.0	.161	.140	.120	.138	.120	.104	.094	.083	.072	.054	.048	.042	.017	.015	.013	
2.0	.154	.118	.088	.132	.102	.076	.090	.070	.053	.052	.041	.031	.017	.013	.010	
3.0	.147	.102	.067	.126	.088	.058	.087	.061	.040	.050	.036	.024	.016	.012	.008	
4.0	.140	.090	.052	.121	.078	.045	.083	.054	.032	.048	.032	.019	.015	.010	.006	
5.0	.134	.081	.042	.115	.070	.037	.079	.049	.026	.046	.029	.015	.015	.009	.005	
6.0	.127	.074	.035	.110	.064	.030	.076	.045	.022	.044	.026	.013	.014	.009	.004	
7.0	.121	.067	.030	.104	.058	.026	.072	.041	.018	.042	.024	.011	.014	.008	.004	
8.0	.116	.062	.026	.099	.054	.022	.069	.038	.016	.040	.022	.009	.013	.007	.003	
9.0	.110	.058	.023	.095	.050	.020	.066	.035	.014	.038	.021	.008	.012	.007	.003	
10.0	.105	.054	.020	.091	.047	.017	.063	.033	.012	.037	.020	.007	.012	.006	.002	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:14 July 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: 99XLED612					TYPE: 99XLED612			WEIGHT: 1		
SPEC.:					DIM.: F170			SERIAL No.: 0		
MFR.: Elmark Industries JSC					SUR.: circle F125			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	23.8	25.3	24.0	25.5	25.7	23.8	25.3	24.0	25.5	25.7
3H	25.3	26.7	25.6	26.9	27.1	25.2	26.6	25.5	26.9	27.1
4H	25.9	27.2	26.2	27.5	27.7	25.7	27.1	26.1	27.3	27.6
6H	26.3	27.6	26.6	27.8	28.1	26.1	27.3	26.4	27.6	27.9
8H	26.4	27.6	26.7	27.9	28.2	26.1	27.3	26.4	27.6	27.9
12H	26.5	27.6	26.8	27.9	28.2	26.1	27.2	26.4	27.5	27.8
4H 2H	24.4	25.7	24.7	25.9	26.2	24.4	25.7	24.7	25.9	26.2
3H	26.0	27.2	26.4	27.5	27.8	26.0	27.2	26.3	27.4	27.8
4H	26.8	27.8	27.1	28.2	28.5	26.6	27.7	27.0	28.0	28.4
6H	27.3	28.3	27.7	28.6	29.0	27.0	28.0	27.4	28.3	28.7
8H	27.5	28.4	27.9	28.7	29.1	27.1	28.0	27.5	28.4	28.7
12H	27.6	28.4	28.0	28.8	29.2	27.1	27.9	27.5	28.3	28.7
8H 4H	27.0	27.9	27.4	28.2	28.6	26.9	27.8	27.3	28.1	28.5
6H	27.7	28.4	28.1	28.8	29.2	27.4	28.1	27.8	28.5	29.0
8H	27.9	28.6	28.4	29.0	29.4	27.5	28.2	28.0	28.6	29.0
12H	28.1	28.6	28.5	29.1	29.6	27.5	28.1	28.0	28.5	29.0
12H 4H	27.0	27.8	27.4	28.2	28.6	26.9	27.7	27.3	28.1	28.5
6H	27.7	28.4	28.2	28.8	29.2	27.4	28.1	27.9	28.5	29.0
8H	28.0	28.5	28.4	29.0	29.4	27.6	28.1	28.0	28.6	29.0
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 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 840.0 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.6)
Area: 0.0122656 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:14 July 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: 99XLED612	TYPE: 99XLED612	WEIGHT: 1
SPEC.:	DIM.: F170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F125	Shielding Angle:

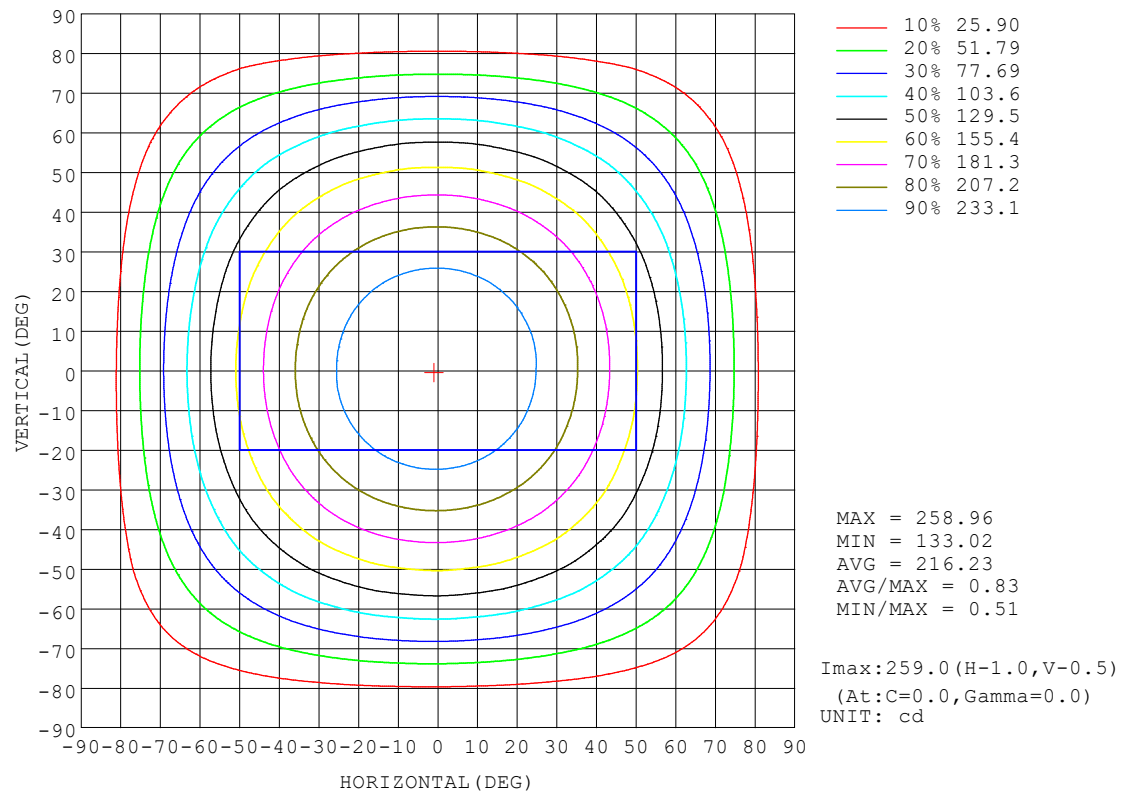
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	51	41	35	51	41	35	50	40	34	29
0.80	60	50	43	59	50	43	58	49	43	37
1.00	68	58	51	67	57	51	65	59	51	44
1.25	74	65	59	73	64	58	71	63	57	51
1.50	79	70	64	77	69	63	75	68	62	56
2.00	85	77	72	83	76	71	80	74	70	63
2.50	89	82	76	87	80	75	83	78	74	66
3.00	92	85	81	90	84	80	86	81	78	70
4.00	95	90	86	93	89	85	89	86	82	74
5.00	97	93	89	95	91	88	91	88	85	77
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: 14 July 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: 99XLED612	TYPE: 99XLED612	WEIGHT: 1
SPEC.:	DIM.: F170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F125	Shielding Angle:

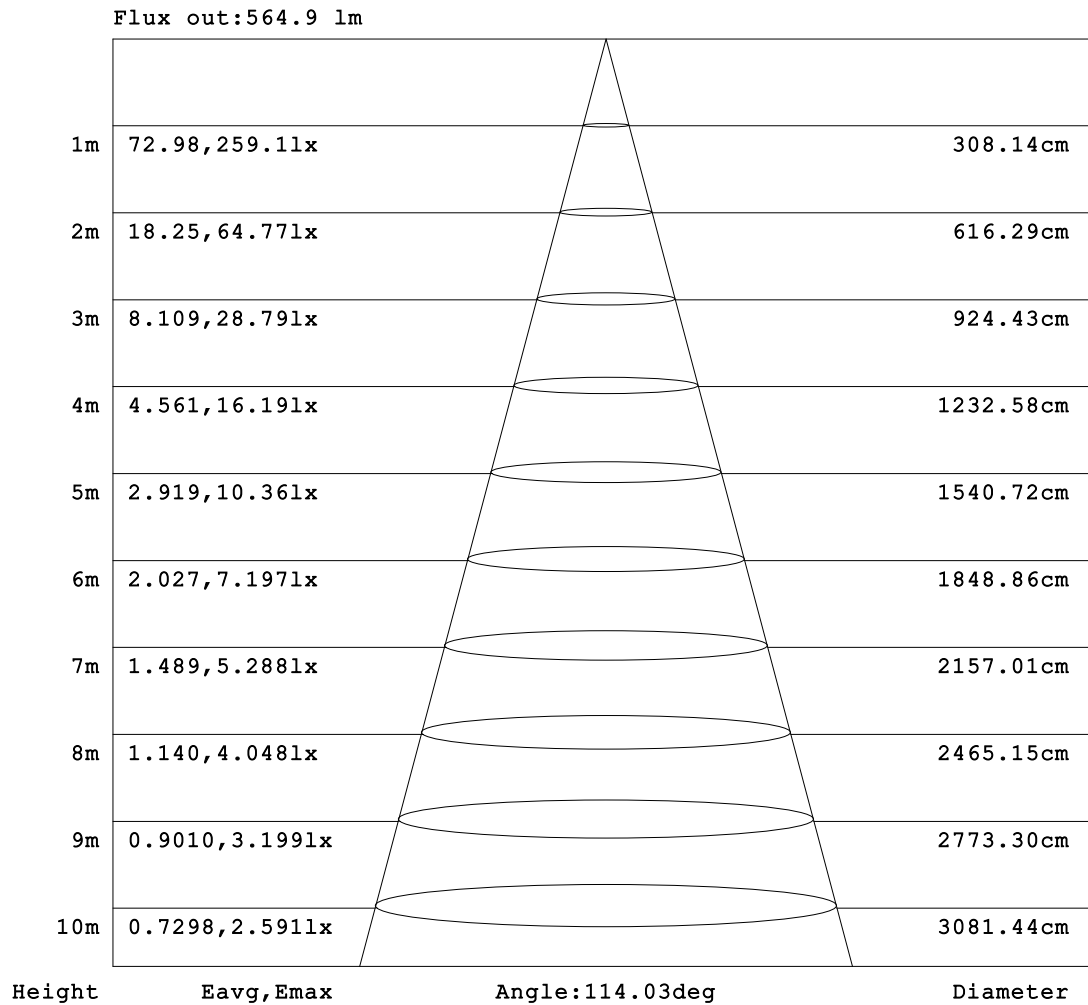


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 14 July 2022

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: 99XLED612	TYPE: 99XLED612	WEIGHT: 1
SPEC.:	DIM.: F170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F125	Shielding Angle:



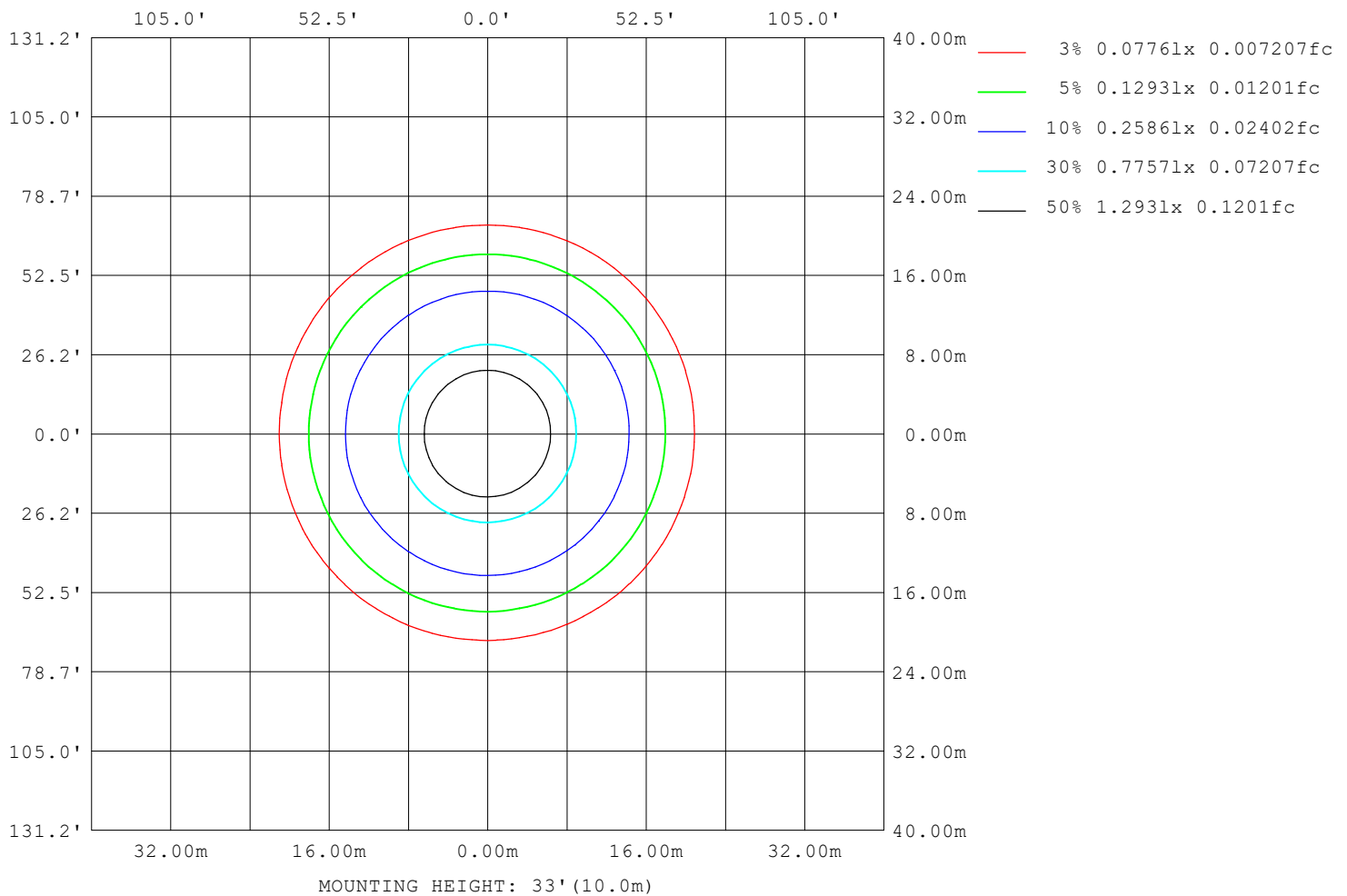
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:14 July 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: 99XLED612	TYPE: 99XLED612	WEIGHT: 1
SPEC.:	DIM.: F170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F125	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 14 July 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: 99XLED612	TYPE: 99XLED612	WEIGHT: 1
SPEC.:	DIM.: F170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F125	Shielding Angle:

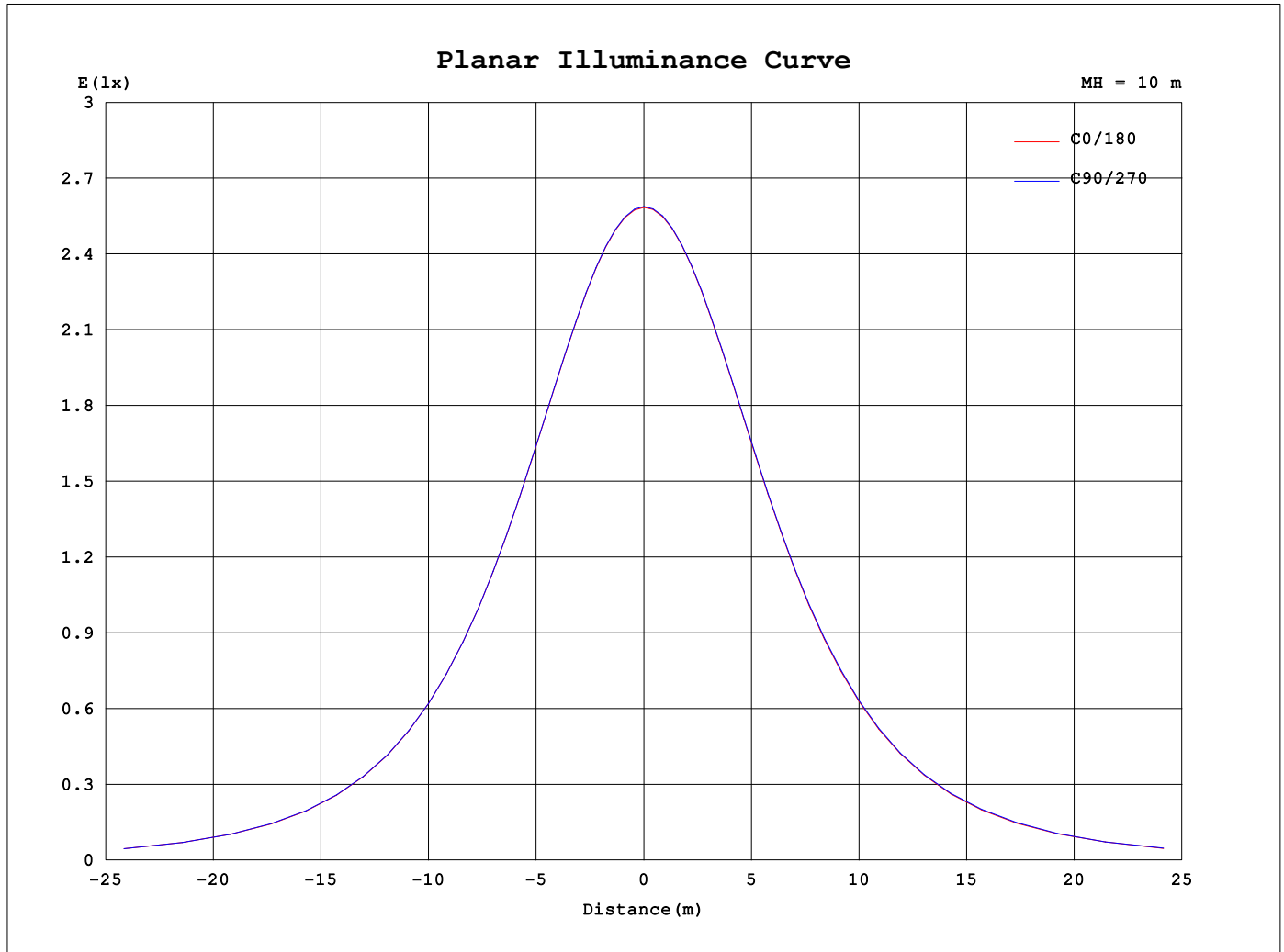
AvgL	cd/m2
L_0~180 (65) av	18289
L_0~180 (75) av	16284
L_0~180 (85) av	11347
L_90~270 (65) av	18264
L_90~270 (75) av	15332
L_90~270 (85) av	5298
L_45 (65) av	18340
L_45 (75) av	15837
L_45 (85) av	7925

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:14 July 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: 14 July 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:

```