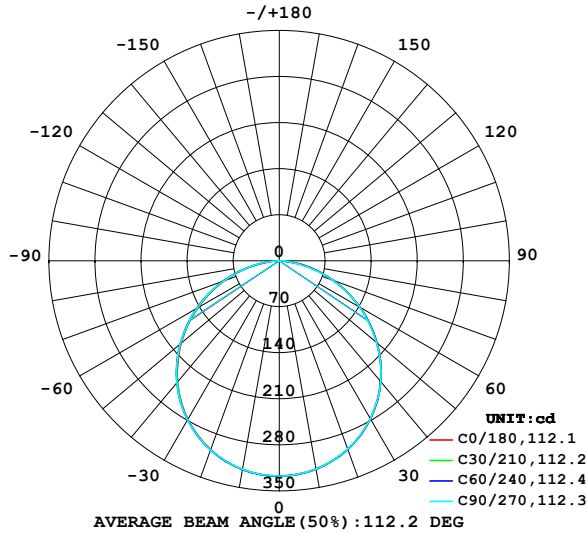


LUMINAIRE PHOTOMETRIC TEST REPORT

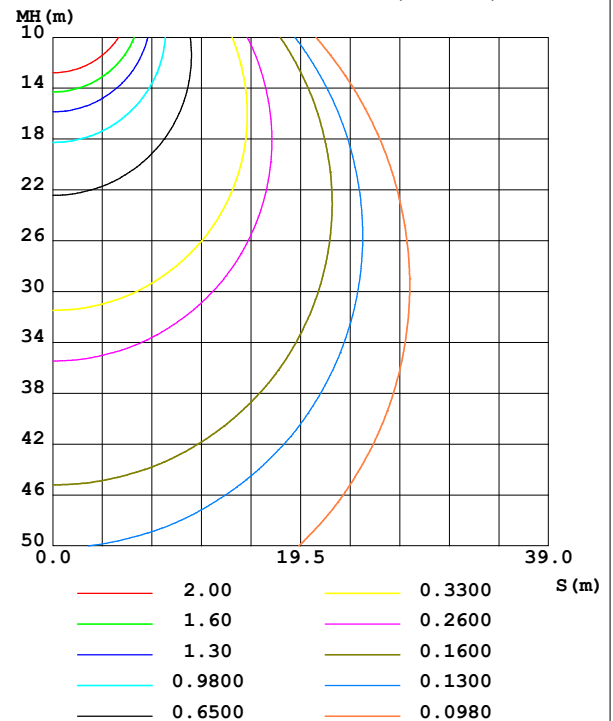
NAME: 99LED610IP65	TYPE: 99LED610IP65	WEIGHT: 1
SPEC.:	DIM.: F 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99LED610IP65	Imax(cd)	327.9	S/MH(C0/180)	1.26
NOMINAL POWER(W)	10	LOR(%)	121.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	931.99	η UP,DN(C0-180)	0.0,60.1
NOMINAL FLUX(lm)	770	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,60.9
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down (%)	121.0	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:11 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	322.1	321.7	321.4	322.0	322.0	322.4	322.0	322.2	0- 10	30.99	30.99	3.33,4.03
20	305.2	304.8	304.4	304.7	305.3	306.1	306.0	306.2	10- 20	88.92	119.9	12.9,15.6
30	277.8	277.4	277.1	277.6	278.2	279.0	279.3	279.0	20- 30	135.1	255.0	27.4,33.1
40	240.4	239.9	239.8	240.0	240.7	241.9	242.3	241.7	30- 40	163.0	418.0	44.9,54.3
50	194.1	193.7	193.4	193.5	195.0	196.3	196.9	195.9	40- 50	168.7	586.7	62.9,76.2
60	142.2	141.7	141.6	141.5	143.1	144.9	145.3	144.1	50- 60	151.4	738.1	79.2,95.9
70	87.76	87.51	87.21	87.15	88.61	90.87	91.04	89.75	60- 70	114.7	852.8	91.5,111
80	35.75	34.04	31.31	34.16	36.98	37.30	35.17	36.11	70- 80	65.13	917.9	98.5,119
90	0.4934	0.4902	0.4842	0.4926	0.4198	0.4303	0.4162	0.4300	80- 90	14.08	932.0	100,121
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): 503.11 lm

%lum = 54.0%
%lamp = 65.3%

Conical surface Flux(130deg): 800.99 lm

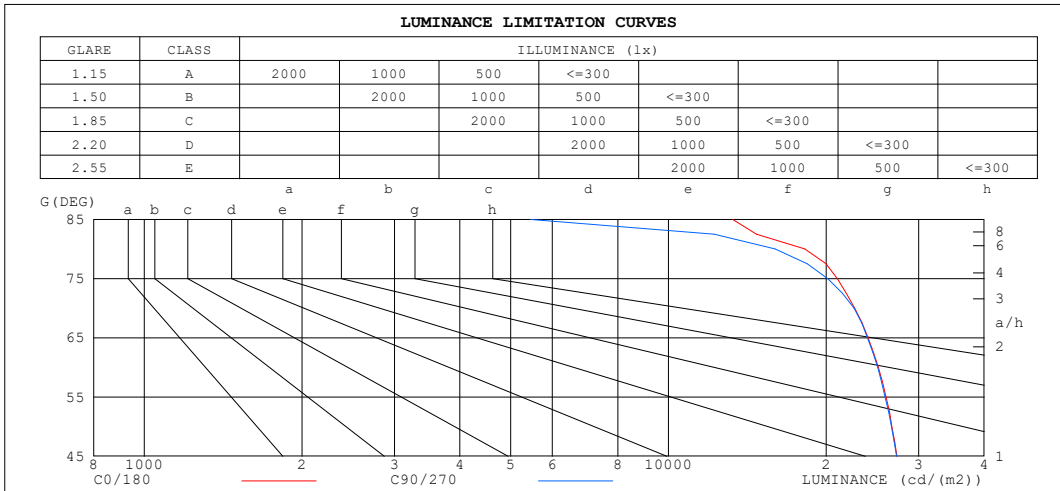
%lum = 85.9%
%lamp = 104.0%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:11 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: 99LED610IP65	TYPE: 99LED610IP65	WEIGHT: 1
SPEC.:	DIM.: F 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle	Shielding Angle:



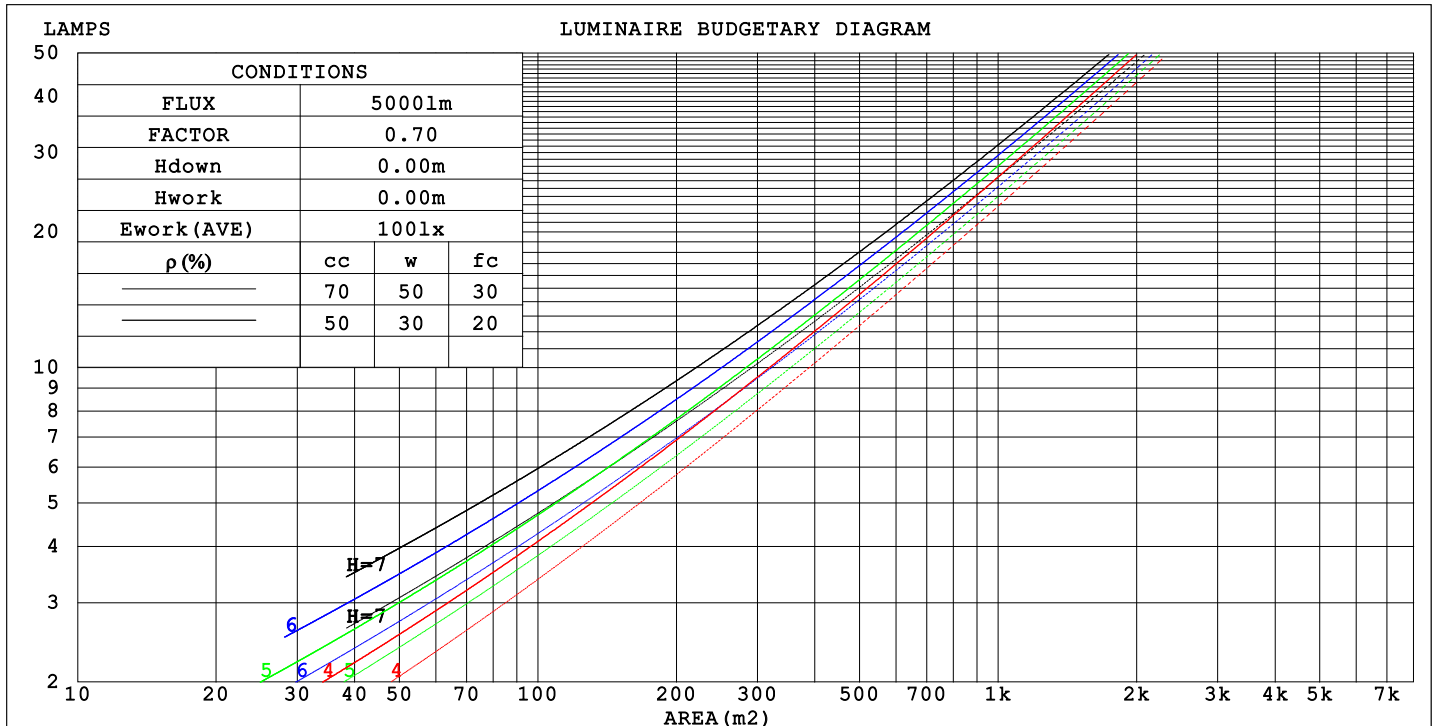
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 11 August 2022

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: 99LED610IP65	TYPE: 99LED610IP65	WEIGHT: 1
SPEC.:	DIM.: F 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle	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:11 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: 99LED610IP65	TYPE: 99LED610IP65	WEIGHT: 1
SPEC.:	DIM.: F 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle	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	.370	.211	.067	.362	.206	.066	.346	.198	.063	.331	.191	.061	.317	.184	.059	
2.0	.351	.192	.059	.343	.189	.058	.329	.183	.057	.316	.177	.055	.304	.172	.054	
3.0	.325	.173	.052	.319	.171	.051	.306	.166	.050	.295	.161	.050	.284	.157	.049	
4.0	.301	.156	.046	.295	.154	.046	.284	.150	.045	.273	.147	.044	.264	.143	.044	
5.0	.278	.142	.041	.273	.140	.041	.263	.137	.040	.254	.134	.040	.245	.131	.039	
6.0	.258	.129	.037	.253	.128	.037	.245	.125	.036	.236	.123	.036	.229	.120	.036	
7.0	.240	.119	.034	.236	.118	.034	.228	.115	.033	.221	.113	.033	.214	.111	.033	
8.0	.224	.110	.031	.221	.109	.031	.214	.107	.030	.207	.105	.030	.201	.103	.030	
9.0	.210	.102	.028	.207	.101	.028	.201	.099	.028	.195	.098	.028	.189	.096	.028	
10.0	.198	.095	.026	.195	.094	.026	.189	.093	.026	.184	.091	.026	.179	.090	.026	

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	.231	.231	.231	.197	.197	.197	.134	.134	.134	.077	.077	.077	.025	.025	.025	
1.0	.218	.189	.163	.186	.162	.140	.128	.112	.097	.073	.065	.056	.024	.021	.018	
2.0	.208	.160	.119	.178	.137	.103	.122	.095	.072	.070	.055	.042	.023	.018	.014	
3.0	.199	.138	.090	.170	.119	.078	.117	.083	.055	.068	.048	.032	.022	.016	.011	
4.0	.190	.122	.071	.163	.106	.061	.112	.074	.043	.065	.043	.026	.021	.014	.008	
5.0	.181	.110	.057	.155	.095	.050	.107	.066	.035	.062	.039	.021	.020	.013	.007	
6.0	.172	.099	.047	.148	.086	.041	.102	.060	.029	.059	.035	.017	.019	.012	.006	
7.0	.164	.091	.040	.141	.079	.035	.097	.055	.025	.057	.033	.015	.018	.011	.005	
8.0	.156	.084	.035	.134	.073	.030	.093	.051	.022	.054	.030	.013	.017	.010	.004	
9.0	.149	.078	.031	.128	.068	.027	.089	.048	.019	.052	.028	.011	.017	.009	.004	
10.0	.142	.073	.027	.122	.063	.024	.085	.045	.017	.049	.026	.010	.016	.009	.003	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:11 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: 99LED610IP65					TYPE: 99LED610IP65			WEIGHT: 1			
SPEC.:					DIM.: F 170			SERIAL No.: 0			
MFR.: Elmark Industries JSC					SUR.: circle			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	25.1	26.6	25.4	26.8	27.0	25.1	26.6	25.3	26.8	27.0
	3H	26.6	28.0	26.9	28.2	28.4	26.6	28.0	26.8	28.2	28.4
	4H	27.2	28.5	27.5	28.7	29.0	27.1	28.4	27.4	28.7	29.0
	6H	27.6	28.8	27.9	29.1	29.4	27.4	28.7	27.8	29.0	29.2
	8H	27.7	28.9	28.0	29.2	29.5	27.5	28.7	27.8	29.0	29.3
	12H	27.7	28.9	28.1	29.2	29.5	27.4	28.6	27.8	28.9	29.2
4H	2H	25.7	27.0	26.0	27.3	27.5	25.7	27.0	26.0	27.3	27.5
	3H	27.3	28.5	27.7	28.8	29.1	27.3	28.5	27.7	28.8	29.1
	4H	28.1	29.1	28.4	29.4	29.8	28.0	29.1	28.4	29.4	29.7
	6H	28.6	29.5	29.0	29.9	30.3	28.4	29.4	28.8	29.7	30.1
	8H	28.8	29.6	29.2	30.0	30.4	28.5	29.4	28.9	29.8	30.2
	12H	28.8	29.6	29.3	30.0	30.4	28.5	29.3	28.9	29.7	30.1
8H	4H	28.3	29.2	28.7	29.6	29.9	28.3	29.1	28.7	29.5	29.9
	6H	29.0	29.7	29.4	30.1	30.5	28.8	29.6	29.3	30.0	30.4
	8H	29.2	29.9	29.7	30.3	30.7	28.9	29.6	29.4	30.0	30.5
	12H	29.3	29.9	29.8	30.3	30.8	28.9	29.5	29.4	29.9	30.4
12H	4H	28.3	29.1	28.7	29.5	29.9	28.3	29.1	28.7	29.5	29.9
	6H	29.0	29.7	29.5	30.1	30.5	28.9	29.5	29.3	29.9	30.4
	8H	29.3	29.8	29.7	30.3	30.7	29.0	29.6	29.5	30.0	30.5
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H		+ 0.2 / - 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, 770.0 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.9)
Area: 0.011304 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:11 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: 99LED610IP65	TYPE: 99LED610IP65	WEIGHT: 1
SPEC.:	DIM.: F 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle	Shielding Angle:

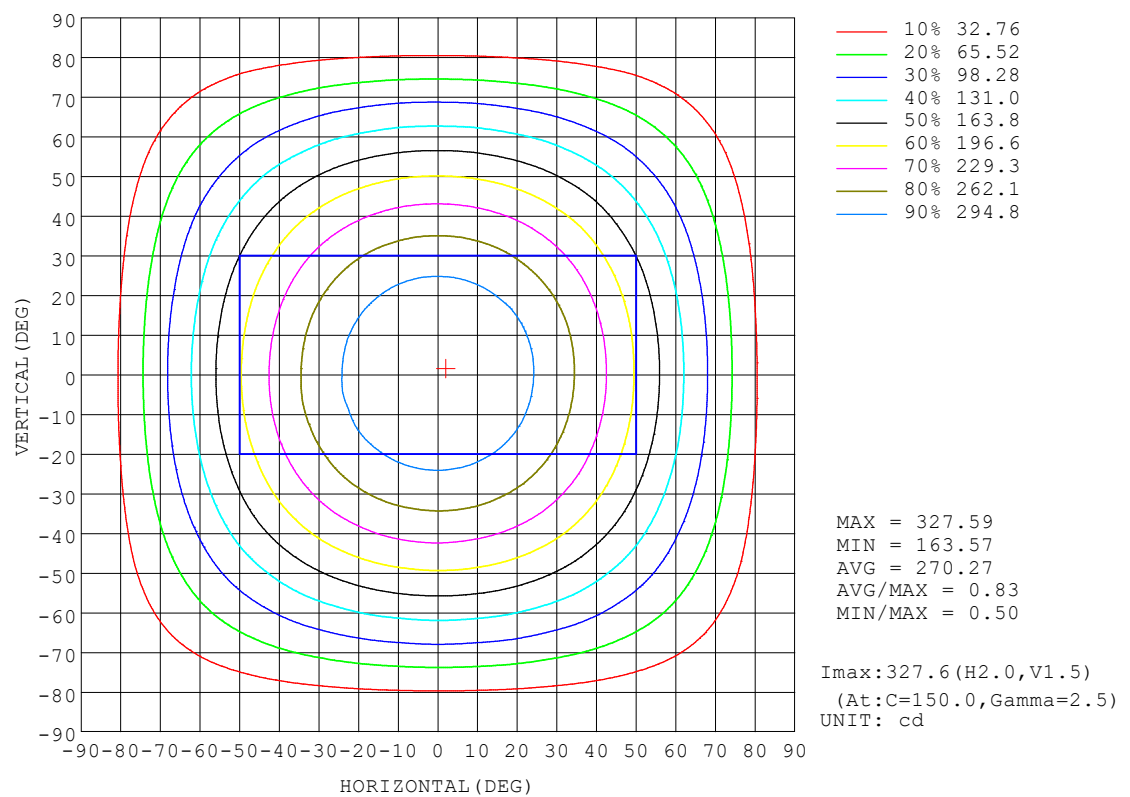
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	70	56	47	69	55	47	67	55	47	39
0.80	82	68	59	81	67	59	79	66	58	50
1.00	92	79	70	91	78	70	88	80	69	60
1.25	101	88	79	99	87	79	96	86	78	69
1.50	107	95	86	105	94	86	101	92	85	76
2.00	115	105	97	113	103	96	109	101	94	85
2.50	120	111	103	117	109	102	113	106	100	90
3.00	124	116	109	121	114	108	116	110	105	95
4.00	129	122	116	126	120	115	121	116	111	101
5.00	132	126	121	129	124	119	123	119	115	104
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: 11 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: 99LED610IP65	TYPE: 99LED610IP65	WEIGHT: 1
SPEC.:	DIM.: F 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle	Shielding Angle:

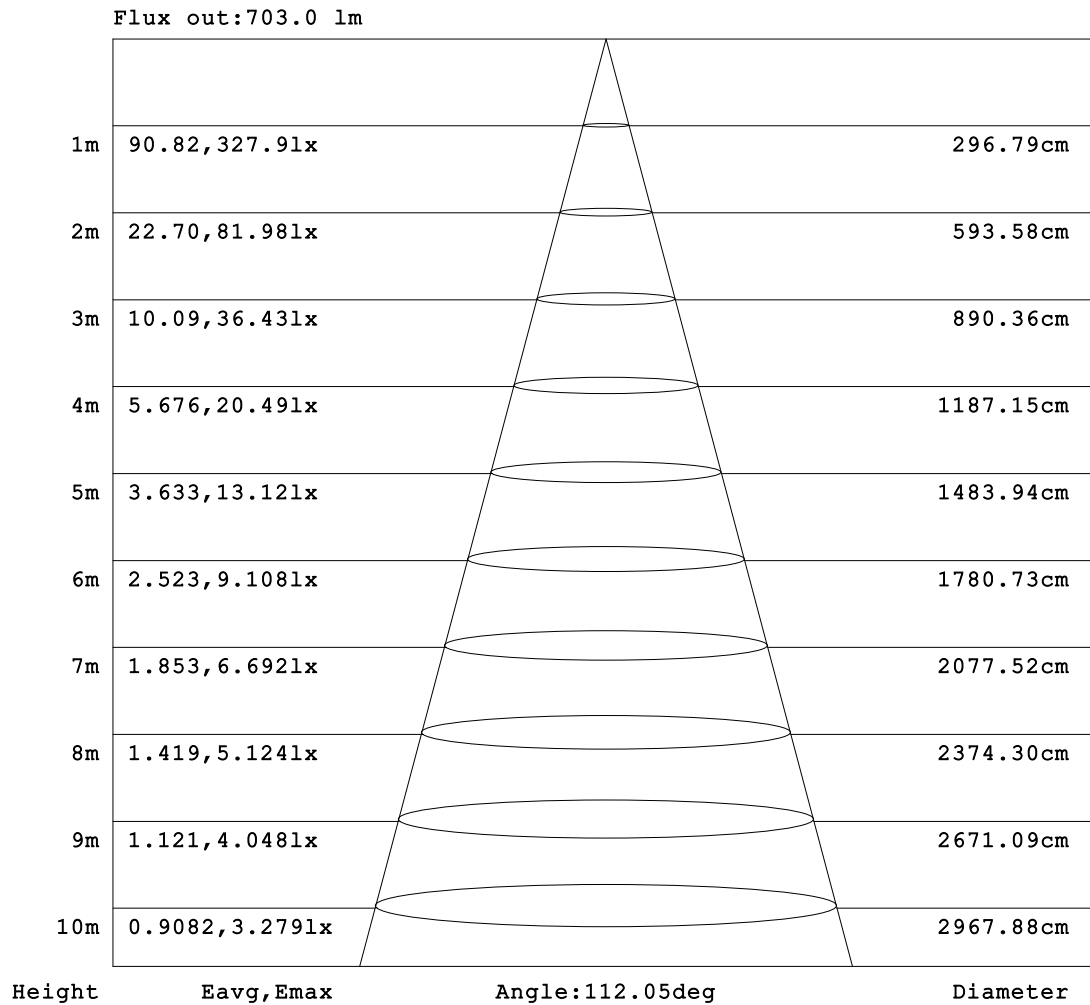


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:11 August 2022

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: 99LED610IP65	TYPE: 99LED610IP65	WEIGHT: 1
SPEC.:	DIM.: F 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle	Shielding Angle:



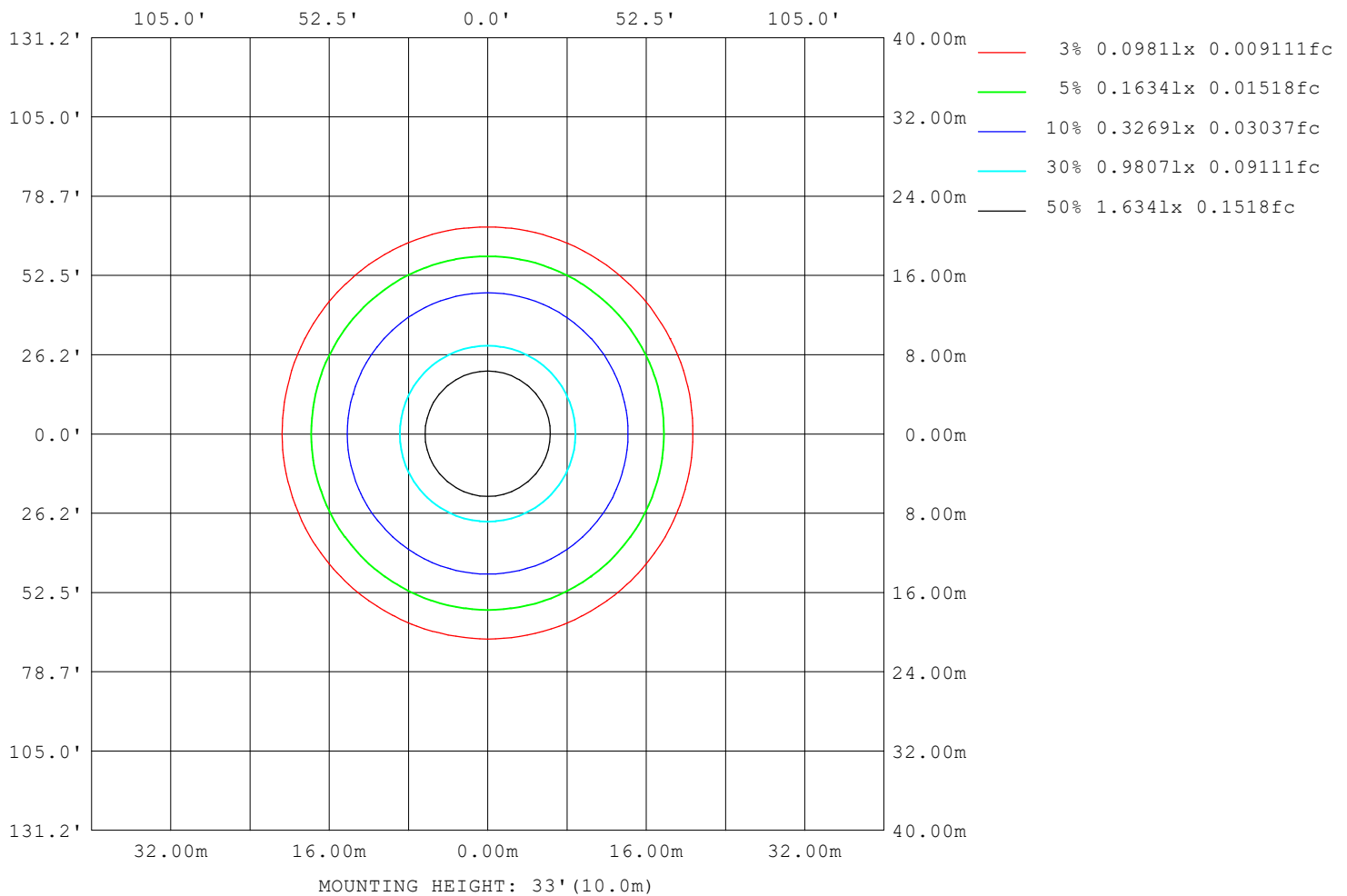
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 11 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: 99LED610IP65	TYPE: 99LED610IP65	WEIGHT: 1
SPEC.:	DIM.: F 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 11 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: 99LED610IP65	TYPE: 99LED610IP65	WEIGHT: 1
SPEC.:	DIM.: F 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle	Shielding Angle:

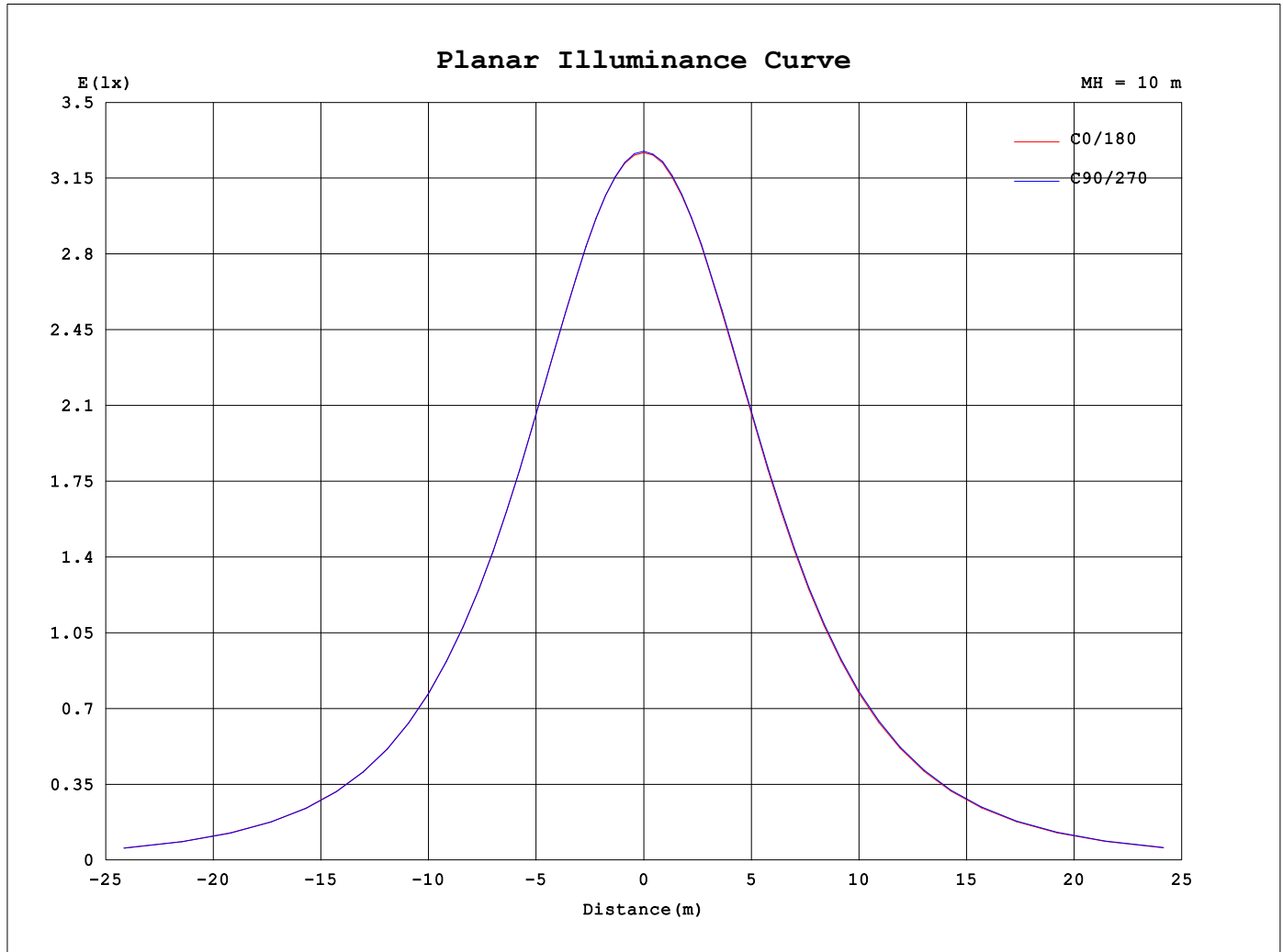
AvgL	cd/m2
L_0~180 (65) av	24160
L_0~180 (75) av	21173
L_0~180 (85) av	13281
L_90~270 (65) av	24359
L_90~270 (75) av	20793
L_90~270 (85) av	7427
L_45 (65) av	24270
L_45 (75) av	21164
L_45 (85) av	10952

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:11 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: 11 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:

```

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:

```