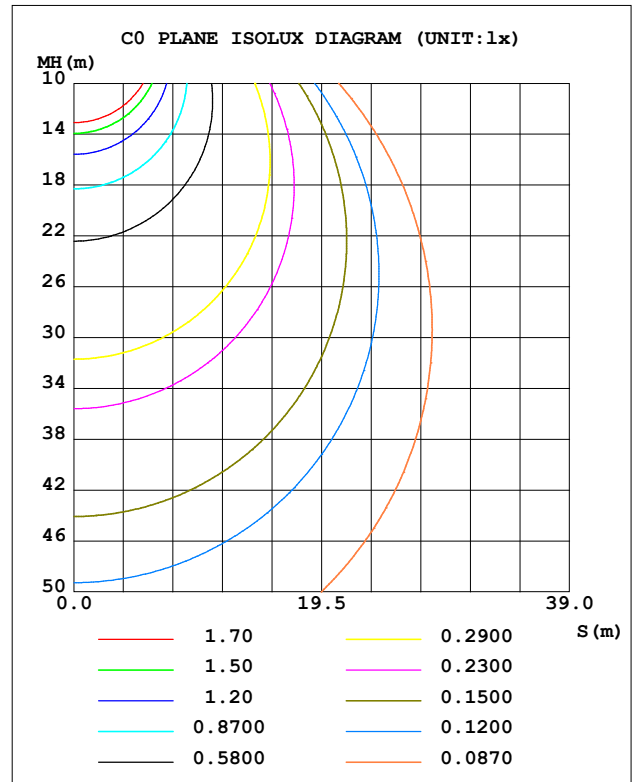
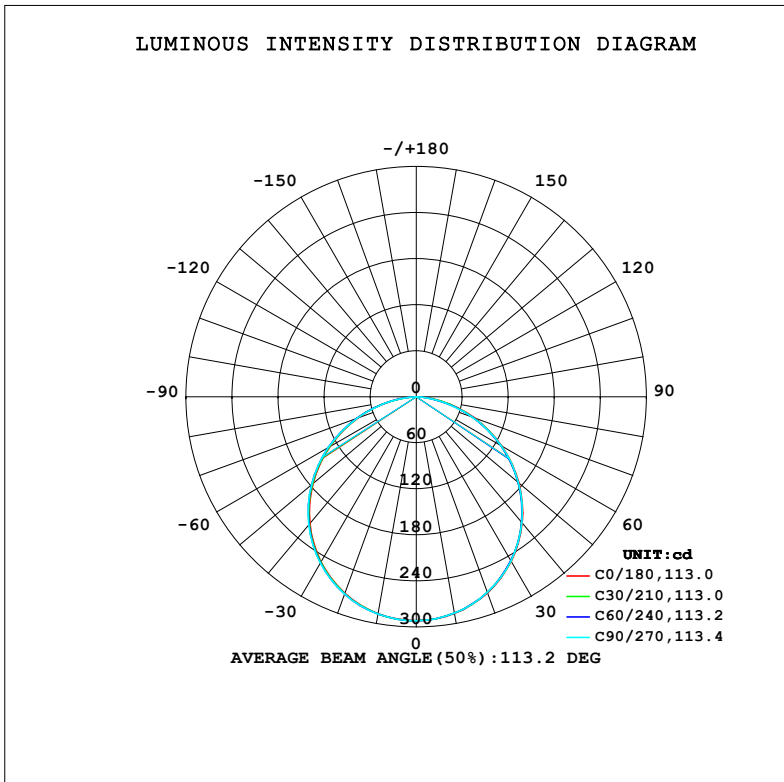


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 99LED967CW	TYPE: 99LED967CW	WEIGHT: 1
SPEC.:	DIM.: 170 x 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99LED967CW	Imax(cd)	291.8	S/MH(C0/180)	1.27
NOMINAL POWER(W)	12	LOR(%)	94.1	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	837.61	η UP,DN(C0-180)	0.0,46.6
NOMINAL FLUX(lm)	890	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,47.5
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down (%)	94.1	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:12 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	286.7	286.4	286.4	286.7	287.1	287.4	287.5	287.2	0- 10	27.62	27.62	3.3,3.1
20	271.8	271.1	271.3	271.7	272.5	273.2	273.4	272.8	10- 20	79.25	106.9	12.8,12
30	247.6	246.6	246.9	247.4	248.5	249.5	250.0	249.0	20- 30	120.4	227.3	27.1,25.5
40	214.8	213.6	214.0	214.4	215.8	217.2	217.9	216.6	30- 40	145.6	373.0	44.5,41.9
50	174.7	173.2	173.8	174.0	175.7	177.2	178.4	176.7	40- 50	151.4	524.3	62.6,58.9
60	128.8	127.4	127.8	128.0	129.9	131.6	132.4	131.2	50- 60	136.8	661.1	78.9,74.3
70	80.38	78.49	77.48	79.10	80.98	82.55	82.46	82.21	60- 70	104.0	765.2	91.4,86
80	32.27	30.42	28.13	30.96	32.91	33.69	32.20	33.43	70- 80	59.01	824.2	98.4,92.6
90	0.4634	0.4643	0.4464	0.4693	0.3980	0.4089	0.3974	0.3959	80- 90	13.43	837.6	100,94.1
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): 449.22 lm

%lum = 53.6%

%lamp = 50.5%

Conical surface Flux(130deg): 718.21 lm

%lum = 85.7%

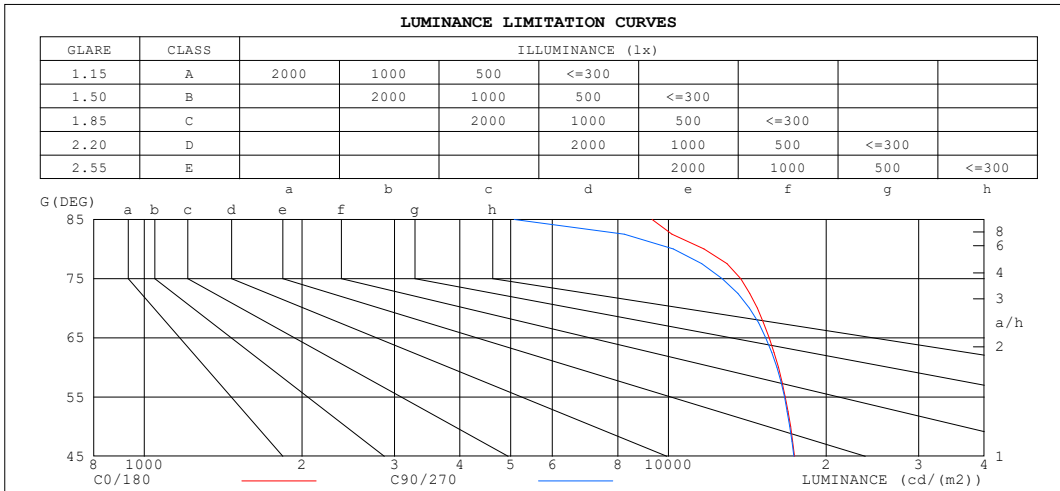
%lamp = 80.7%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:12 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: 99LED967CW	TYPE: 99LED967CW	WEIGHT: 1
SPEC.:	DIM.: 170 x 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	9298	5077
80	11689	10205
75	13736	12660
70	14781	14272
65	15563	15335
60	16201	16097
55	16709	16658
50	17090	17035
45	17398	17347

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 12 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:

```

WEC AND CCEC

NAME: 99LED967CW	TYPE: 99LED967CW	WEIGHT: 1
SPEC.:	DIM.: 170 x 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	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	.289	.165	.052	.283	.161	.051	.270	.155	.050	.259	.149	.048	.248	.144	.046	
2.0	.274	.150	.046	.268	.148	.045	.257	.143	.044	.247	.138	.043	.237	.134	.042	
3.0	.254	.135	.040	.249	.133	.040	.239	.129	.039	.230	.126	.039	.222	.123	.038	
4.0	.234	.122	.036	.230	.120	.036	.221	.117	.035	.213	.114	.035	.206	.112	.034	
5.0	.217	.110	.032	.213	.109	.032	.205	.107	.031	.198	.104	.031	.191	.102	.031	
6.0	.201	.101	.029	.198	.100	.029	.191	.098	.028	.184	.096	.028	.178	.094	.028	
7.0	.187	.093	.026	.184	.092	.026	.178	.090	.026	.172	.088	.026	.167	.087	.025	
8.0	.175	.085	.024	.172	.085	.024	.167	.083	.024	.161	.082	.024	.157	.080	.023	
9.0	.164	.079	.022	.161	.079	.022	.156	.077	.022	.152	.076	.022	.147	.075	.022	
10.0	.154	.074	.021	.152	.073	.020	.147	.072	.020	.143	.071	.020	.139	.070	.020	

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	.179	.179	.179	.153	.153	.153	.105	.105	.105	.060	.060	.060	.019	.019	.019	
1.0	.170	.147	.127	.145	.126	.109	.099	.087	.075	.057	.050	.044	.018	.016	.014	
2.0	.162	.124	.092	.139	.107	.080	.095	.074	.056	.055	.043	.033	.018	.014	.011	
3.0	.155	.108	.070	.133	.093	.061	.091	.064	.043	.053	.038	.025	.017	.012	.008	
4.0	.148	.095	.055	.127	.082	.048	.087	.057	.034	.050	.034	.020	.016	.011	.007	
5.0	.141	.085	.044	.121	.074	.039	.083	.052	.027	.048	.030	.016	.016	.010	.005	
6.0	.134	.077	.037	.115	.067	.032	.079	.047	.023	.046	.028	.013	.015	.009	.004	
7.0	.127	.071	.031	.110	.061	.027	.076	.043	.019	.044	.025	.011	.014	.008	.004	
8.0	.121	.065	.027	.105	.057	.024	.072	.040	.017	.042	.024	.010	.014	.008	.003	
9.0	.116	.061	.024	.100	.053	.021	.069	.037	.015	.040	.022	.009	.013	.007	.003	
10.0	.110	.057	.021	.095	.049	.018	.066	.035	.013	.038	.020	.008	.012	.007	.003	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:12 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: 99LED967CW					TYPE: 99LED967CW			WEIGHT: 1			
SPEC.:					DIM.: 170 x 170			SERIAL No.: 0			
MFR.: Elmark Industries JSC					SUR.: square			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	23.0	24.6	23.3	24.8	25.0	23.0	24.5	23.3	24.7	24.9
	3H	24.6	26.0	24.8	26.2	26.4	24.5	25.9	24.8	26.1	26.4
	4H	25.2	26.5	25.5	26.7	27.0	25.0	26.3	25.3	26.6	26.9
	6H	25.6	26.8	25.9	27.1	27.4	25.3	26.6	25.7	26.9	27.1
	8H	25.7	26.9	26.0	27.2	27.5	25.4	26.6	25.7	26.9	27.2
	12H	25.7	26.9	26.1	27.2	27.5	25.4	26.5	25.7	26.8	27.1
4H	2H	23.6	25.0	23.9	25.2	25.5	23.6	25.0	23.9	25.2	25.5
	3H	25.3	26.5	25.7	26.8	27.1	25.2	26.4	25.6	26.7	27.0
	4H	26.1	27.1	26.4	27.4	27.8	25.9	27.0	26.3	27.3	27.6
	6H	26.6	27.6	27.0	27.9	28.3	26.3	27.3	26.7	27.6	28.0
	8H	26.8	27.7	27.2	28.0	28.4	26.4	27.3	26.8	27.7	28.1
	12H	26.9	27.7	27.3	28.1	28.5	26.4	27.2	26.9	27.6	28.0
8H	4H	26.3	27.2	26.7	27.5	27.9	26.2	27.0	26.6	27.4	27.8
	6H	27.0	27.7	27.4	28.1	28.5	26.7	27.4	27.1	27.8	28.3
	8H	27.2	27.9	27.7	28.3	28.7	26.8	27.5	27.3	27.9	28.4
	12H	27.4	27.9	27.9	28.4	28.9	26.9	27.4	27.4	27.9	28.4
12H	4H	26.3	27.1	26.7	27.5	27.9	26.2	27.0	26.6	27.4	27.8
	6H	27.0	27.7	27.5	28.1	28.5	26.7	27.4	27.2	27.8	28.3
	8H	27.3	27.8	27.8	28.3	28.8	26.9	27.5	27.4	27.9	28.4
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, 890.0 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.4)
Area: 0.015876 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:12 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: 99LED967CW	TYPE: 99LED967CW	WEIGHT: 1
SPEC.:	DIM.: 170 x 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

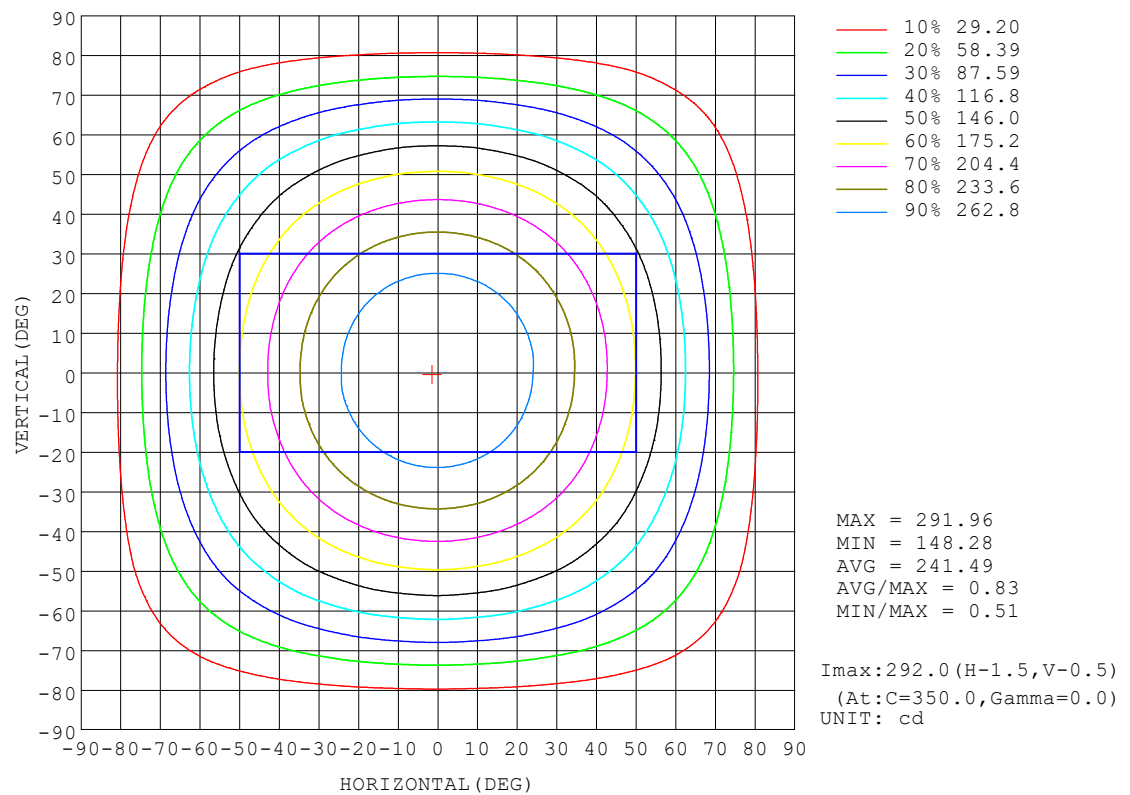
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	54	43	37	53	43	36	52	42	36	30
0.80	64	53	46	63	52	45	61	51	45	39
1.00	71	61	54	70	60	54	68	62	53	47
1.25	78	68	62	77	68	61	74	66	60	54
1.50	83	74	67	81	73	67	79	71	66	58
2.00	89	81	75	88	80	75	84	78	73	66
2.50	93	86	80	91	85	79	88	82	78	70
3.00	96	90	85	94	88	84	90	86	82	74
4.00	100	95	90	98	93	89	94	90	87	78
5.00	102	98	94	100	96	93	96	93	90	81
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: 12 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: 99LED967CW	TYPE: 99LED967CW	WEIGHT: 1
SPEC.:	DIM.: 170 x 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

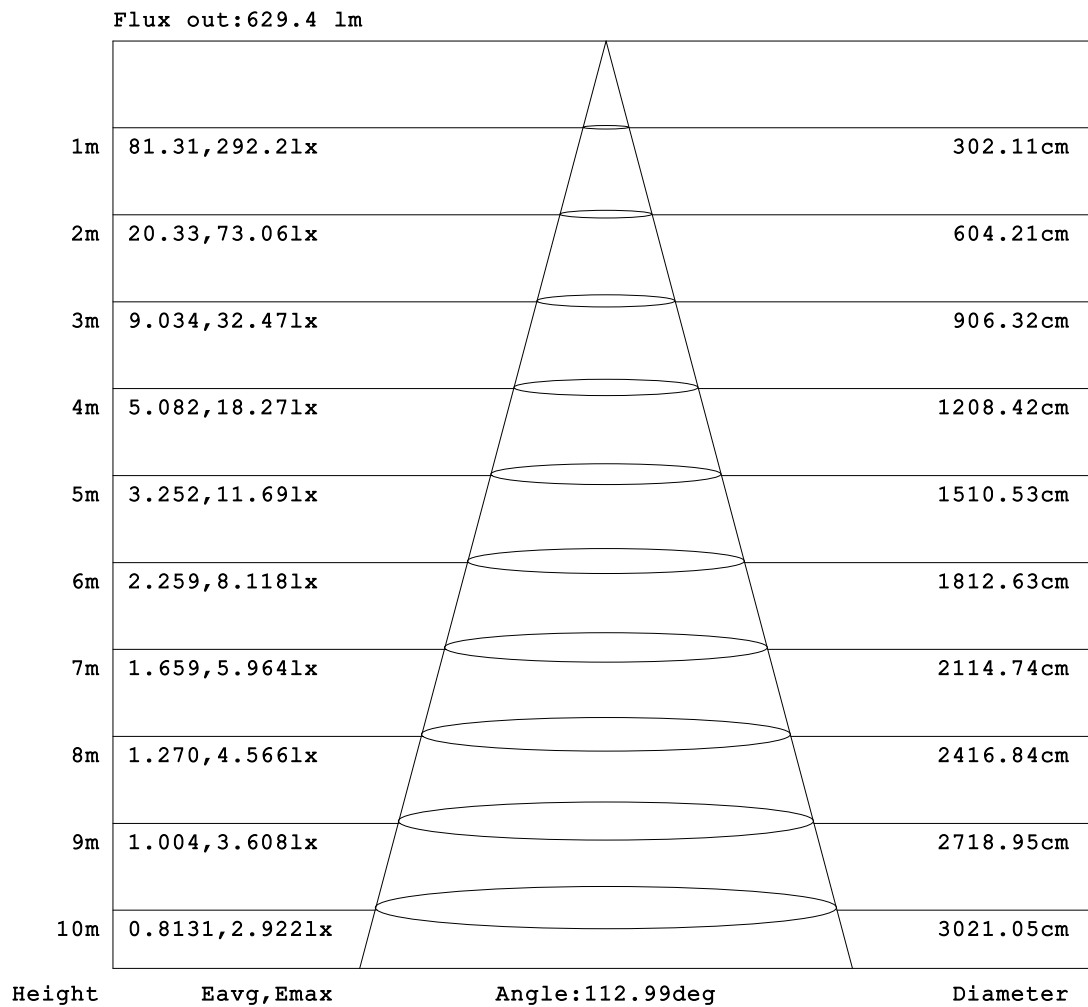


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 12 August 2022

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: 99LED967CW	TYPE: 99LED967CW	WEIGHT: 1
SPEC.:	DIM.: 170 x 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:



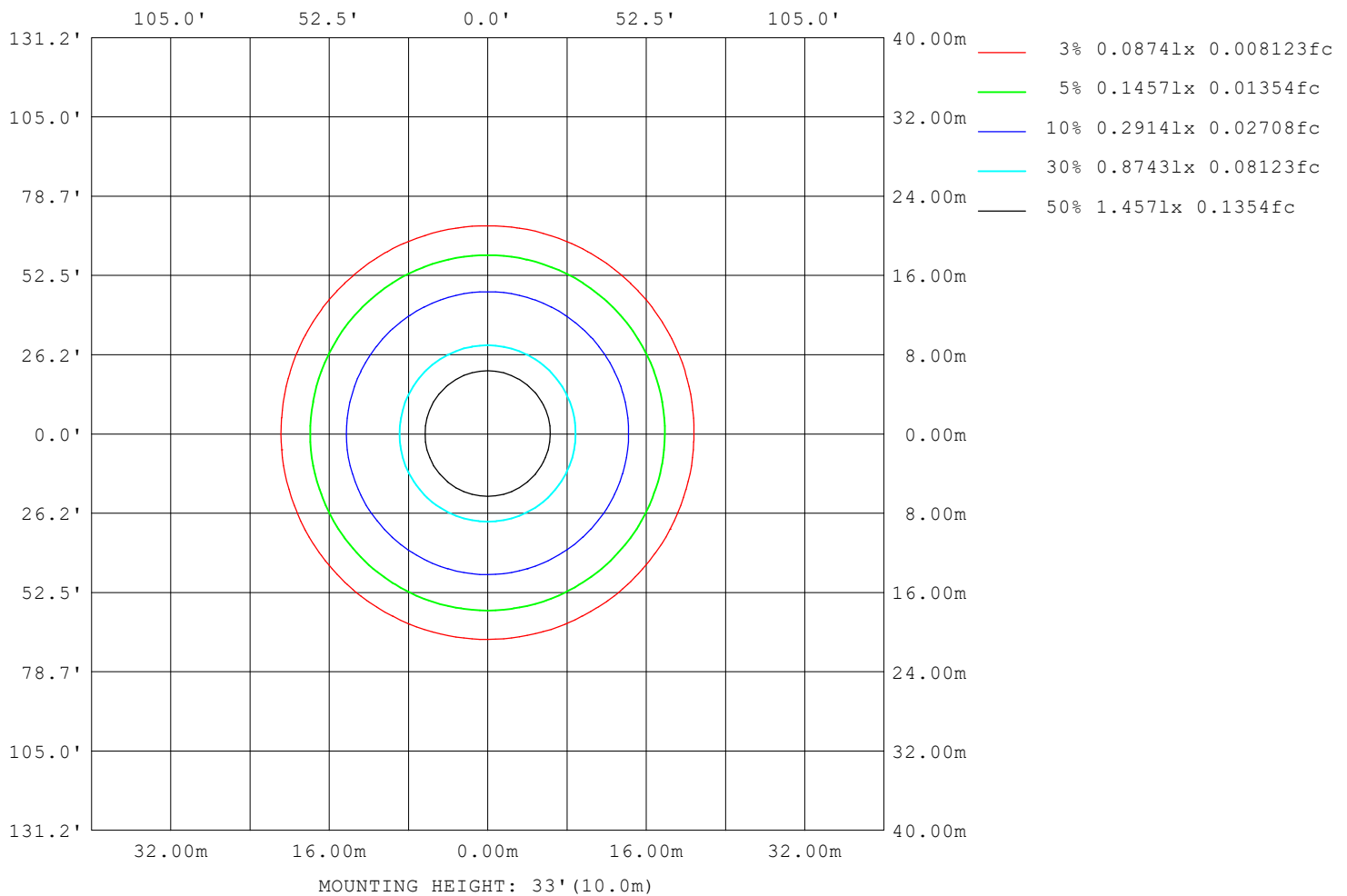
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 12 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: 99LED967CW	TYPE: 99LED967CW	WEIGHT: 1
SPEC.:	DIM.: 170 x 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 12 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: 99LED967CW	TYPE: 99LED967CW	WEIGHT: 1
SPEC.:	DIM.: 170 x 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

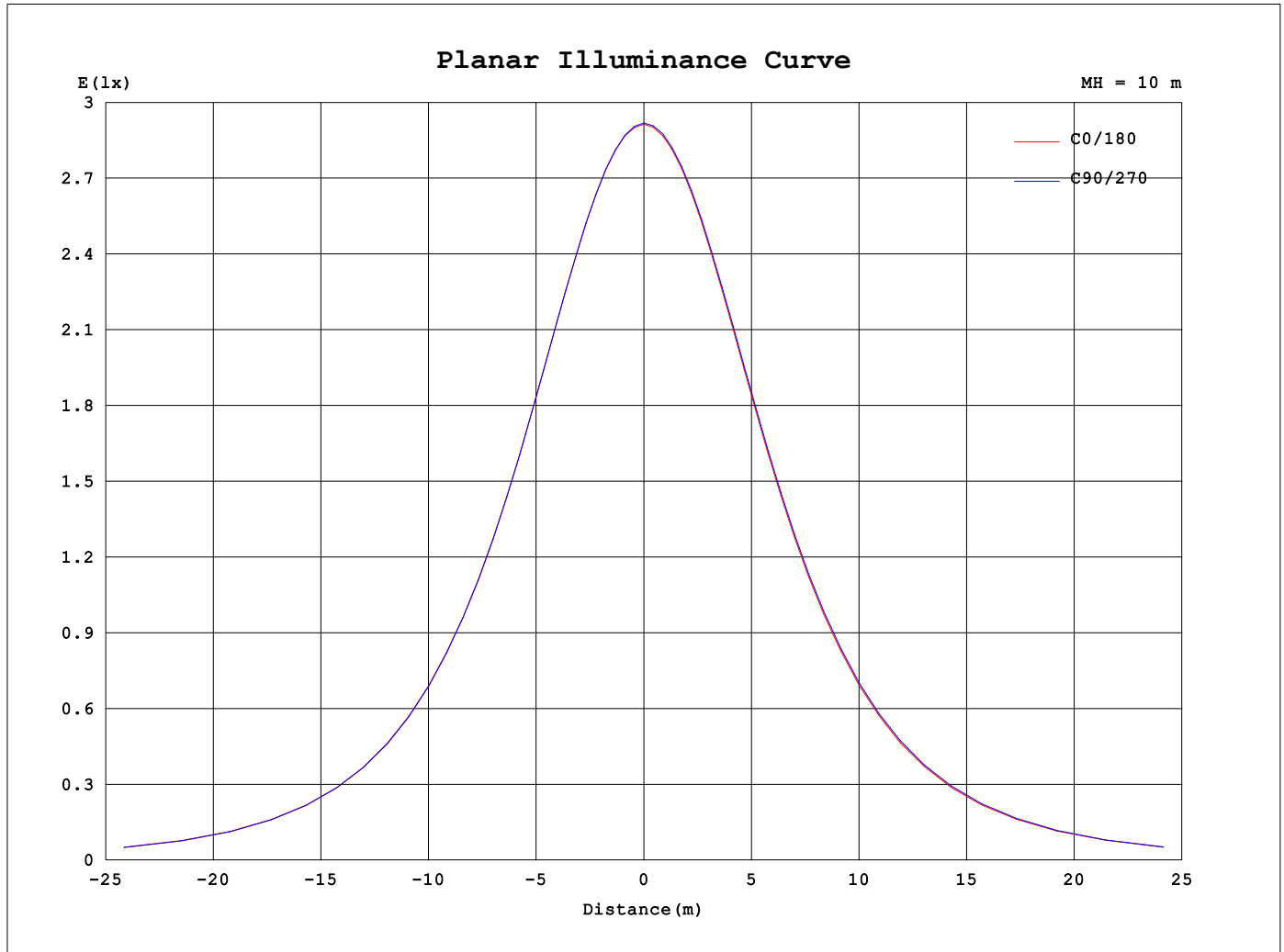
AvgL	cd/m2
L_0~180 (65) av	15653
L_0~180 (75) av	13825
L_0~180 (85) av	9427
L_90~270 (65) av	15688
L_90~270 (75) av	13234
L_90~270 (85) av	6286
L_45 (65) av	15677
L_45 (75) av	13641
L_45 (85) av	7652

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:12 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: 12 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:

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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:

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