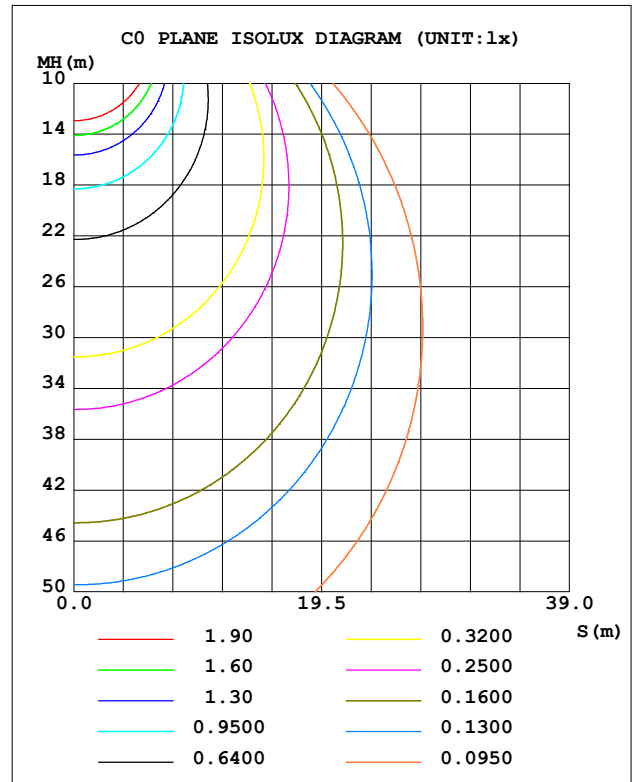
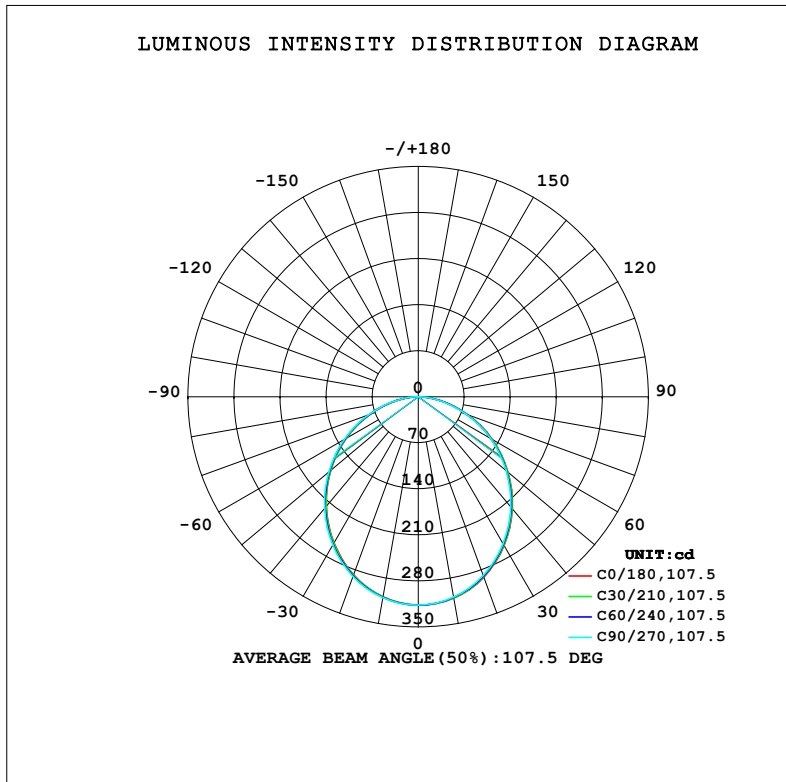


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 99LED961WW	TYPE: 99LED961WW	WEIGHT: 1
SPEC.:	DIM.: F138	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99LED961WW	I _{max} (cd)	316.8	S/MH (C0/180)	1.21
NOMINAL POWER (W)	12	LOR (%)	84.1	S/MH (C90/270)	1.23
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	858.19	η UP, DN (C0-180)	0.0, 41.8
NOMINAL FLUX (lm)	1020	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 42.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	84.1	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 10 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	311.0	310.3	309.4	308.9	308.9	309.5	310.4	311.0	0- 10	29.91	29.91	3.49, 2.93
20	291.8	290.7	289.1	288.0	288.0	289.2	290.8	292.0	10- 20	85.00	114.9	13.4, 11.3
30	261.4	259.9	258.0	256.5	256.6	258.1	260.3	261.7	20- 30	127.0	241.9	28.2, 23.7
40	222.7	220.9	218.9	217.4	217.6	219.2	221.6	223.1	30- 40	150.4	392.2	45.7, 38.5
50	178.3	176.5	174.5	173.2	173.5	175.3	177.5	178.9	40- 50	153.2	545.4	63.6, 53.5
60	130.2	128.6	127.0	125.9	126.5	128.0	129.9	131.1	50- 60	136.3	681.7	79.4, 66.8
70	80.57	79.02	77.51	76.90	77.54	79.02	80.57	81.34	60- 70	102.6	784.4	91.4, 76.9
80	33.30	32.22	31.10	30.71	31.38	32.64	33.63	33.94	70- 80	58.15	842.5	98.2, 82.6
90	0.5347	0.4638	0.4551	0.4606	0.4017	0.4339	0.5695	0.4974	80- 90	15.66	858.2	100, 84.1
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): 469.75 lm

%lum = 54.7%
%lamp = 46.1%

Conical surface Flux(130deg): 738.15 lm

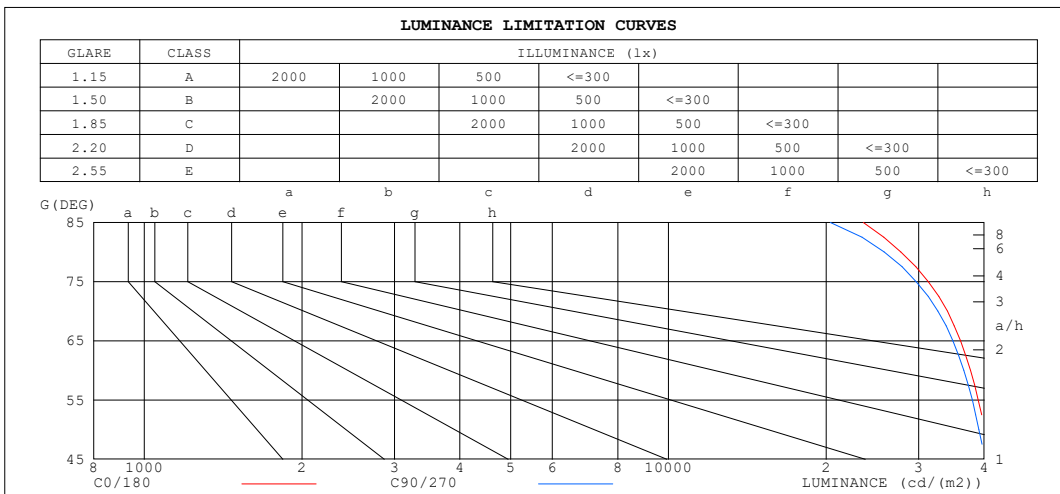
%lum = 86.0%
%lamp = 72.4%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:10 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: 99LED961WW	TYPE: 99LED961WW	WEIGHT: 1
SPEC.:	DIM.: F138	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	23522	20344
80	27732	25792
75	31288	29691
70	34064	32638
65	36054	34862
60	37655	36573
55	38983	37978
50	40110	39104
45	41112	40168

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 10 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: 99LED961WW	TYPE: 99LED961WW	WEIGHT: 1
SPEC.:	DIM.: F138	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	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	.258	.146	.046	.252	.144	.046	.241	.138	.044	.230	.133	.043	.221	.128	.041	
2.0	.243	.133	.041	.238	.131	.040	.228	.127	.039	.219	.123	.038	.210	.119	.037	
3.0	.225	.120	.036	.220	.118	.036	.212	.115	.035	.204	.112	.034	.196	.109	.034	
4.0	.208	.108	.032	.204	.107	.031	.196	.104	.031	.189	.101	.031	.182	.099	.030	
5.0	.192	.098	.028	.189	.097	.028	.182	.095	.028	.175	.093	.028	.169	.091	.027	
6.0	.178	.089	.026	.175	.088	.025	.169	.087	.025	.163	.085	.025	.158	.083	.025	
7.0	.166	.082	.023	.163	.081	.023	.158	.080	.023	.153	.078	.023	.148	.077	.023	
8.0	.155	.076	.021	.153	.075	.021	.148	.074	.021	.143	.073	.021	.139	.071	.021	
9.0	.145	.070	.020	.143	.070	.020	.139	.069	.019	.135	.068	.019	.131	.066	.019	
10.0	.137	.066	.018	.135	.065	.018	.131	.064	.018	.127	.063	.018	.124	.062	.018	

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	.160	.160	.160	.137	.137	.137	.093	.093	.093	.054	.054	.054	.017	.017	.017	
1.0	.151	.131	.113	.130	.113	.098	.089	.078	.067	.051	.045	.039	.016	.014	.013	
2.0	.145	.111	.083	.124	.096	.072	.085	.066	.050	.049	.038	.029	.016	.012	.010	
3.0	.138	.096	.063	.118	.083	.054	.081	.058	.038	.047	.034	.023	.015	.011	.007	
4.0	.131	.085	.049	.113	.073	.043	.078	.051	.030	.045	.030	.018	.014	.010	.006	
5.0	.125	.076	.040	.108	.066	.035	.074	.046	.025	.043	.027	.015	.014	.009	.005	
6.0	.119	.069	.033	.102	.060	.029	.071	.042	.020	.041	.025	.012	.013	.008	.004	
7.0	.113	.063	.028	.098	.055	.024	.067	.038	.017	.039	.023	.010	.013	.007	.003	
8.0	.108	.058	.024	.093	.051	.021	.064	.036	.015	.037	.021	.009	.012	.007	.003	
9.0	.103	.054	.021	.089	.047	.019	.061	.033	.013	.036	.020	.008	.012	.006	.003	
10.0	.098	.051	.019	.085	.044	.017	.059	.031	.012	.034	.018	.007	.011	.006	.002	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:10 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: 99LED961WW					TYPE: 99LED961WW			WEIGHT: 1		
SPEC.:					DIM.: F138			SERIAL No.: 0		
MFR.: Elmark Industries JSC					SUR.: circular			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	25.5	27.0	25.8	27.2	27.4	25.4	26.9	25.6	27.1	27.3
3H	27.0	28.4	27.3	28.6	28.9	26.8	28.2	27.1	28.4	28.7
4H	27.6	28.9	27.9	29.1	29.4	27.4	28.7	27.7	29.0	29.2
6H	28.0	29.2	28.3	29.5	29.8	27.8	29.0	28.1	29.3	29.6
8H	28.1	29.3	28.4	29.6	29.9	27.9	29.1	28.2	29.3	29.6
12H	28.2	29.3	28.5	29.6	29.9	27.9	29.1	28.3	29.4	29.7
4H 2H	26.1	27.4	26.4	27.7	27.9	26.0	27.3	26.3	27.6	27.8
3H	27.7	28.9	28.1	29.2	29.5	27.6	28.8	28.0	29.1	29.4
4H	28.5	29.5	28.8	29.8	30.2	28.3	29.3	28.7	29.7	30.0
6H	29.0	29.9	29.4	30.3	30.6	28.8	29.7	29.2	30.1	30.4
8H	29.2	30.0	29.6	30.4	30.8	28.9	29.8	29.3	30.2	30.6
12H	29.3	30.1	29.7	30.5	30.9	29.0	29.8	29.4	30.2	30.6
8H 4H	28.7	29.6	29.1	29.9	30.3	28.5	29.4	29.0	29.8	30.2
6H	29.4	30.1	29.8	30.5	30.9	29.2	29.9	29.6	30.3	30.7
8H	29.6	30.3	30.1	30.7	31.1	29.4	30.1	29.9	30.5	30.9
12H	29.8	30.3	30.3	30.8	31.3	29.6	30.1	30.0	30.6	31.0
12H 4H	28.7	29.5	29.1	29.9	30.3	28.6	29.4	29.0	29.7	30.1
6H	29.4	30.0	29.9	30.5	30.9	29.2	29.9	29.7	30.3	30.7
8H	29.7	30.2	30.2	30.7	31.2	29.5	30.1	30.0	30.5	31.0
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				

CIE Pub.117, 1020 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.1)
Area: 0.00693626 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:10 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: 99LED961WW	TYPE: 99LED961WW	WEIGHT: 1
SPEC.:	DIM.: F138	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	Shielding Angle:

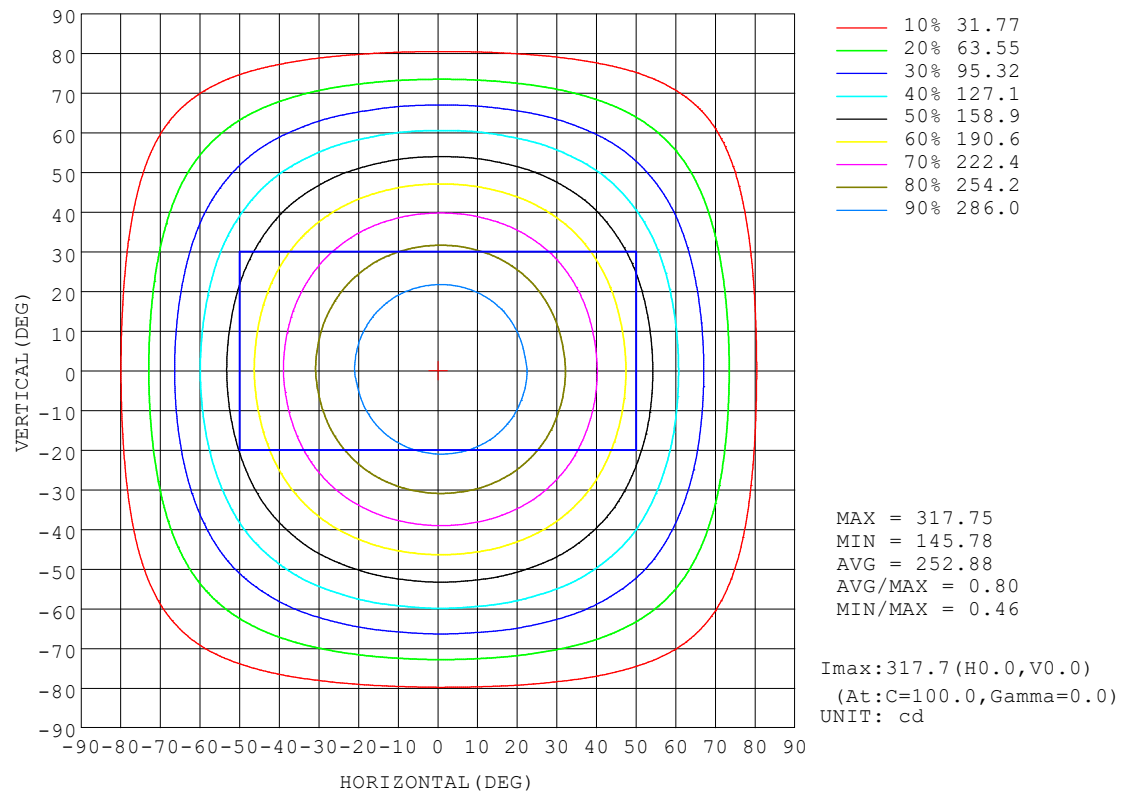
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	49	39	33	48	39	33	47	39	33	28
0.80	57	48	42	56	47	41	55	47	41	35
1.00	64	55	49	63	55	49	62	56	48	42
1.25	70	62	56	69	61	55	67	60	55	49
1.50	74	66	60	73	66	60	71	64	59	53
2.00	80	73	68	79	72	67	76	70	66	59
2.50	83	77	72	82	76	71	78	74	70	63
3.00	86	81	76	84	79	75	81	77	73	66
4.00	90	85	81	88	83	80	84	80	78	70
5.00	92	88	84	90	86	83	86	83	80	73
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: 10 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: 99LED961WW	TYPE: 99LED961WW	WEIGHT: 1
SPEC.:	DIM.: F138	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	Shielding Angle:

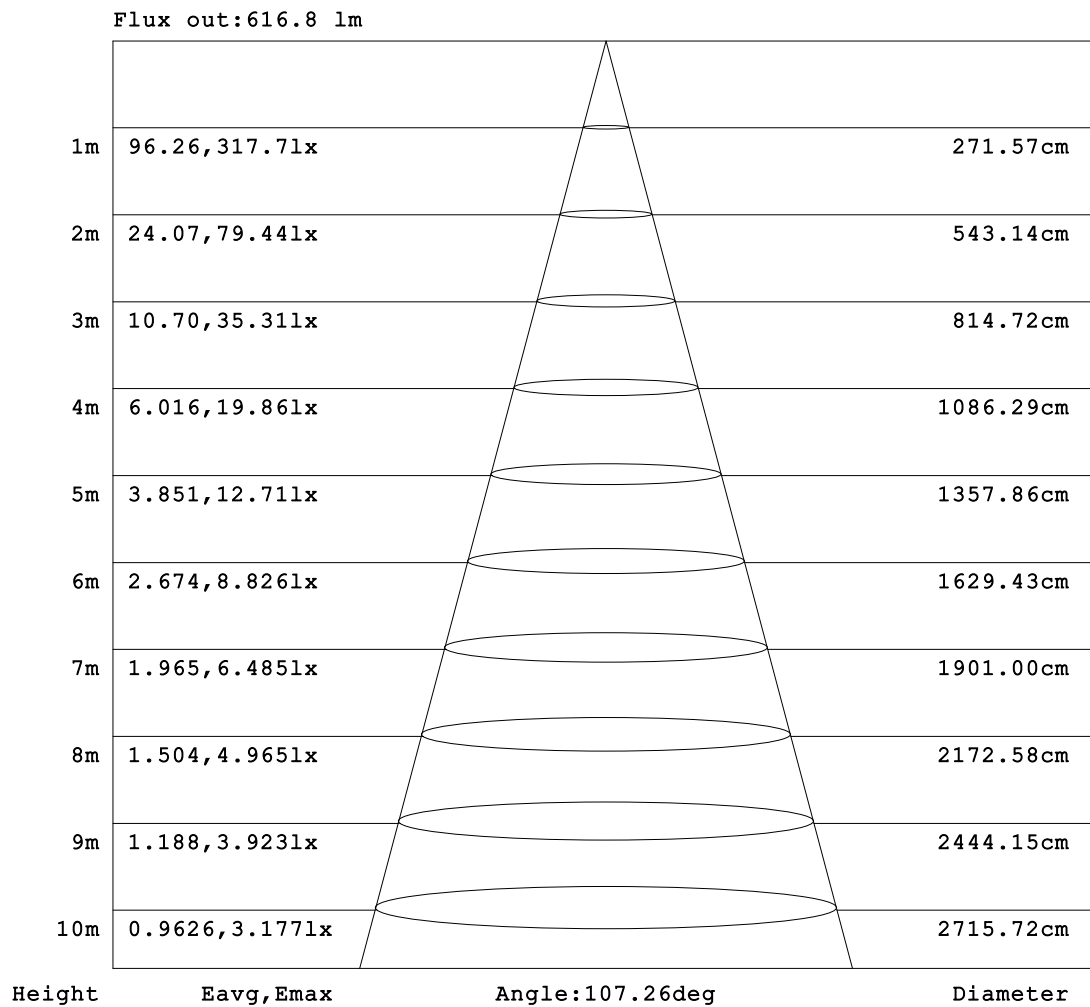


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature:25.3°C
 Operators:
 Test Date:10 August 2022

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: 99LED961WW	TYPE: 99LED961WW	WEIGHT: 1
SPEC.:	DIM.: F138	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	Shielding Angle:



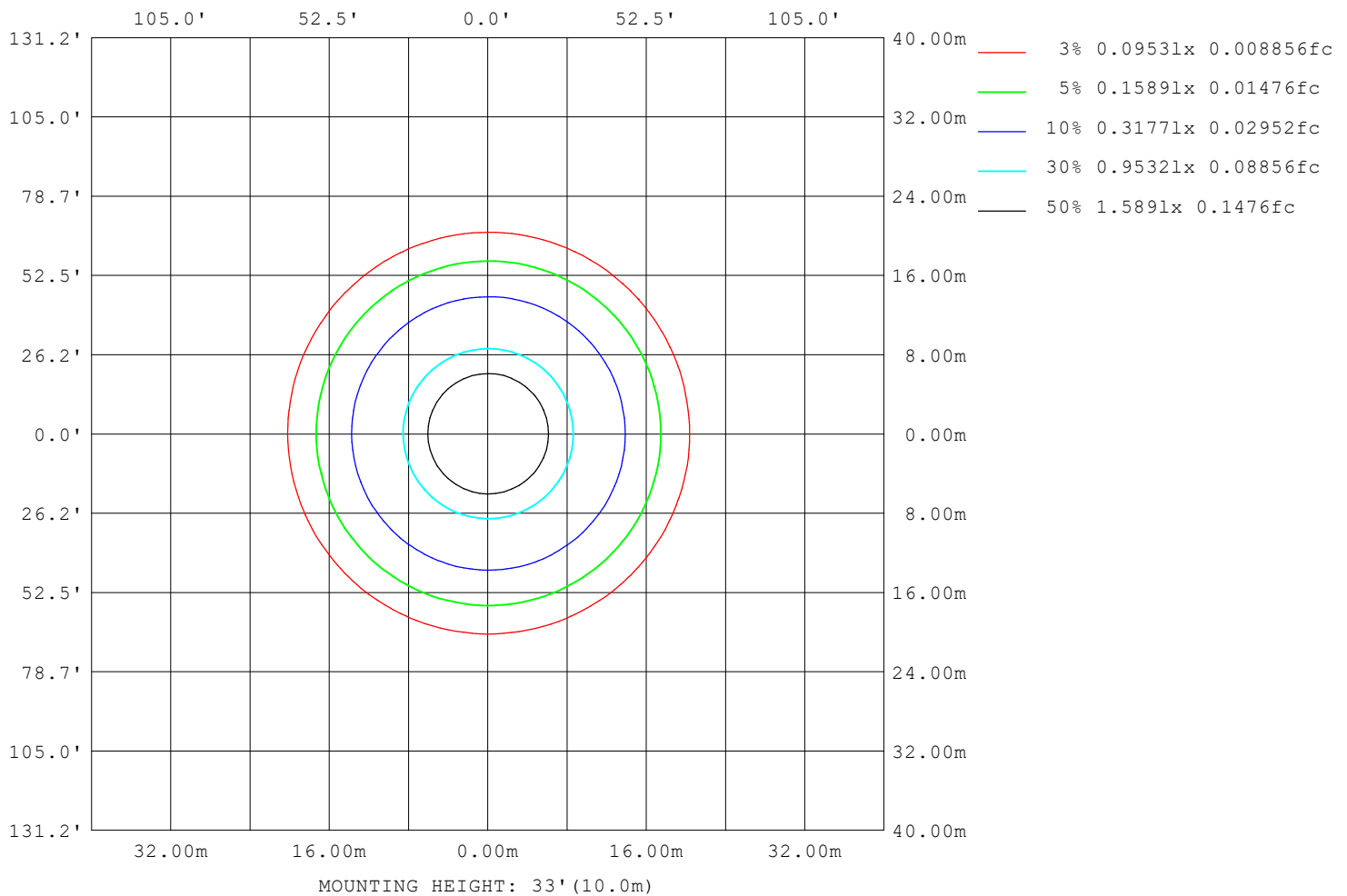
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:10 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: 99LED961WW	TYPE: 99LED961WW	WEIGHT: 1
SPEC.:	DIM.: F138	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 10 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: 99LED961WW	TYPE: 99LED961WW	WEIGHT: 1
SPEC.:	DIM.: F138	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circular	Shielding Angle:

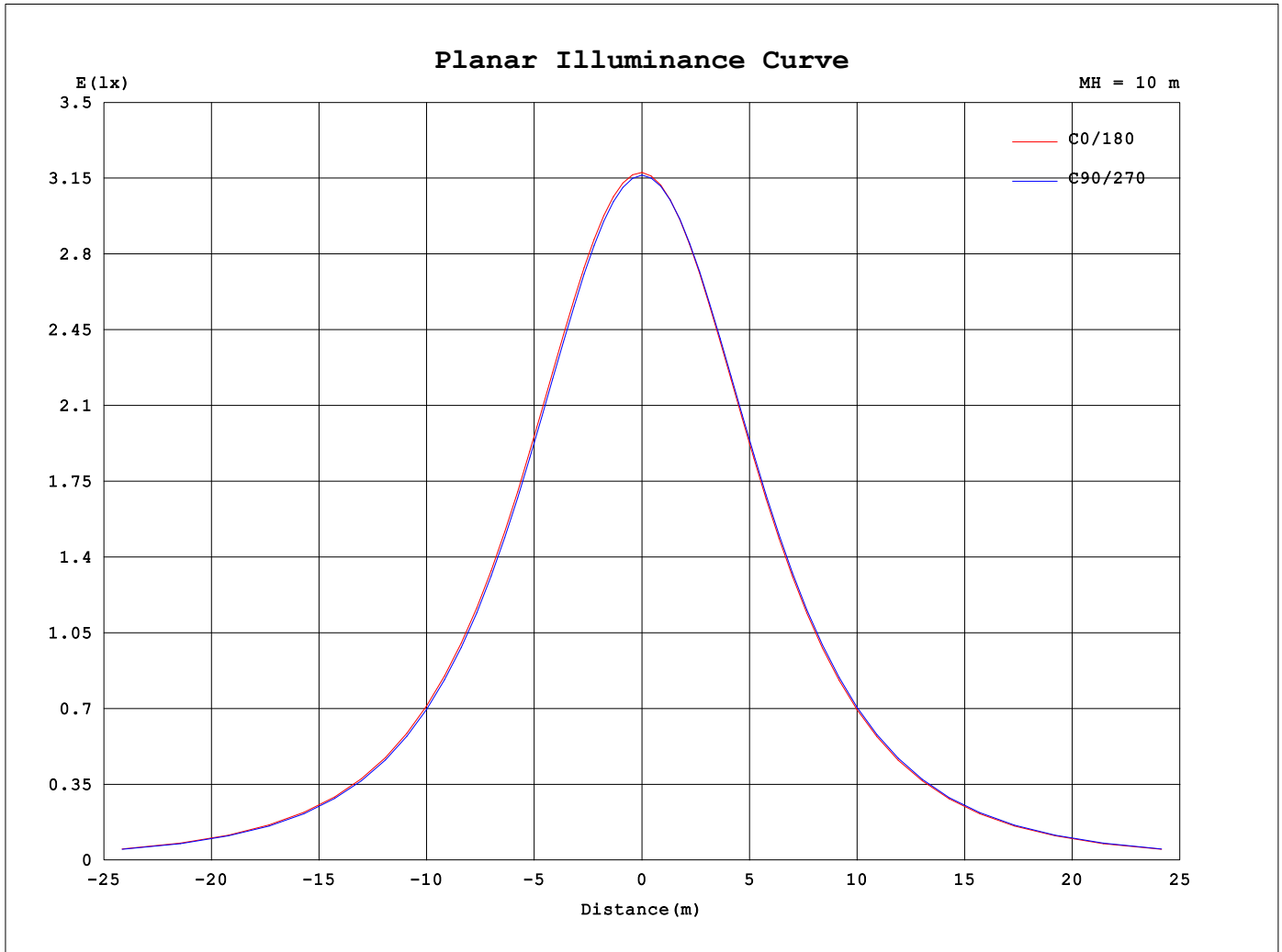
AvgL	cd/m2
L_0~180 (65) av	35382
L_0~180 (75) av	30524
L_0~180 (85) av	22351
L_90~270 (65) av	35387
L_90~270 (75) av	30519
L_90~270 (85) av	22326
L_45 (65) av	35389
L_45 (75) av	30533
L_45 (85) av	22500

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:10 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: 10 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:

```