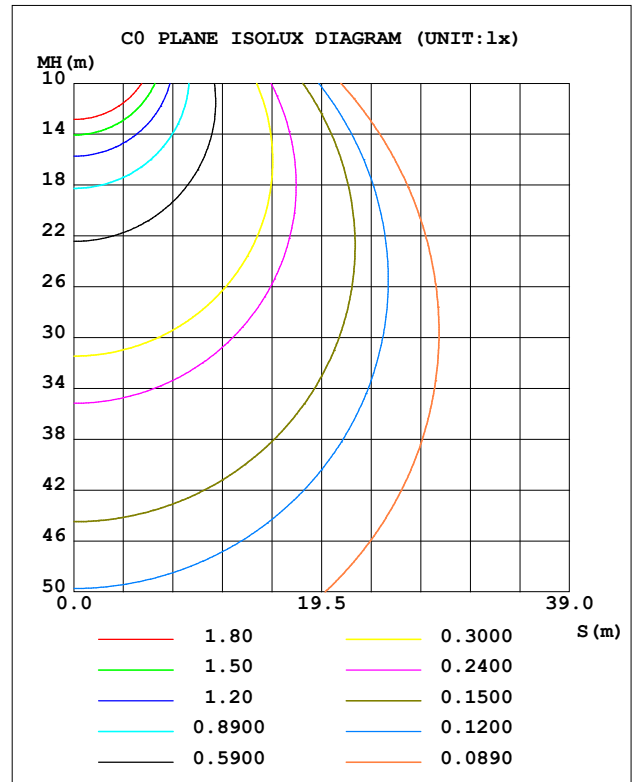
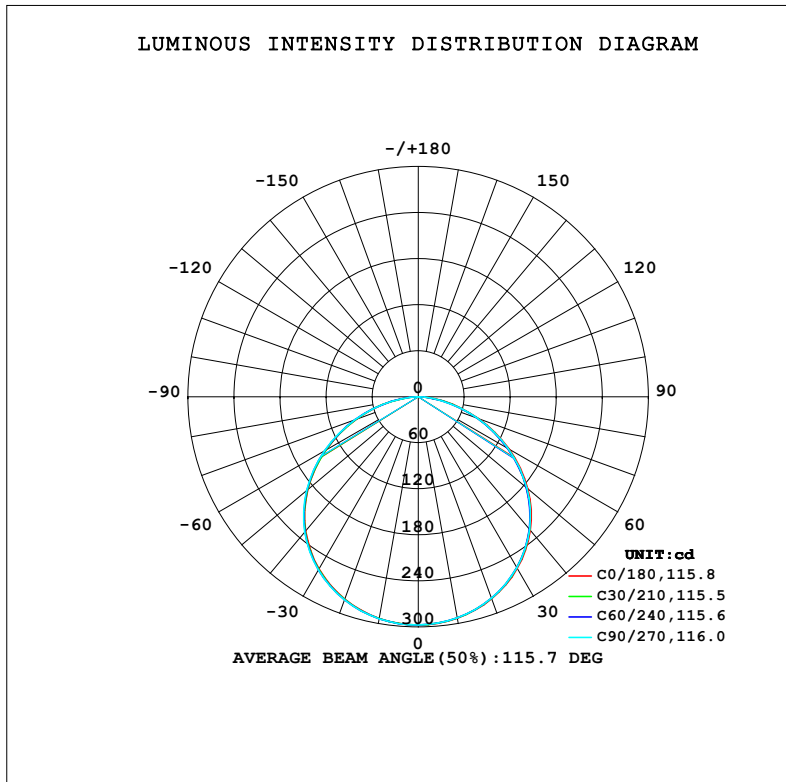


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 99LED967	TYPE: 99LED967	WEIGHT: 1
SPEC.:	DIM.: 170 x 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99LED967	I _{max} (cd)	297.3	S/MH (C0/180)	1.29
NOMINAL POWER (W)	12	LOR (%)	98.8	S/MH (C90/270)	1.30
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	879.69	η UP, DN (C0-180)	0.0, 48.9
NOMINAL FLUX (lm)	890	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.9
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	98.8	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	293.0	292.6	292.5	292.7	293.2	293.6	293.7	293.3	0- 10	28.18	28.18	3.2, 3.17
20	280.0	279.3	279.2	279.5	280.5	281.3	281.4	280.7	10- 20	81.27	109.5	12.4, 12.3
30	258.2	257.1	257.0	257.5	258.9	260.0	260.5	259.2	20- 30	124.7	234.2	26.6, 26.3
40	227.2	225.3	225.7	226.0	228.2	229.4	230.2	228.2	30- 40	152.8	387.0	44, 43.5
50	186.3	183.7	184.4	184.8	187.8	188.8	190.1	187.4	40- 50	160.5	547.5	62.2, 61.5
60	136.7	134.1	135.3	135.6	138.8	139.9	141.1	138.3	50- 60	145.4	692.9	78.8, 77.9
70	83.69	81.69	82.12	83.43	85.75	87.15	87.53	85.76	60- 70	109.9	802.8	91.3, 90.2
80	33.13	32.06	30.43	33.58	34.84	36.24	34.88	35.23	70- 80	62.18	865.0	98.3, 97.2
90	0.4908	0.4930	0.4789	0.4991	0.4308	0.4263	0.4190	0.4202	80- 90	14.70	879.7	100, 98.8
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): 467.67 lm

%lum = 53.2%

%lamp = 52.5%

Conical surface Flux(130deg): 753.31 lm

%lum = 85.6%

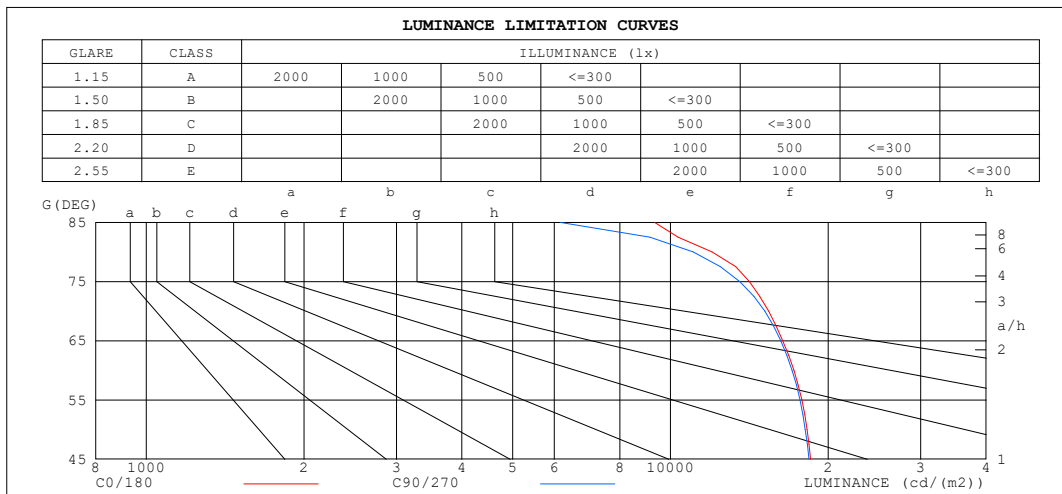
%lamp = 84.6%

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: 99LED967	TYPE: 99LED967	WEIGHT: 1
SPEC.:	DIM.: 170 x 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:



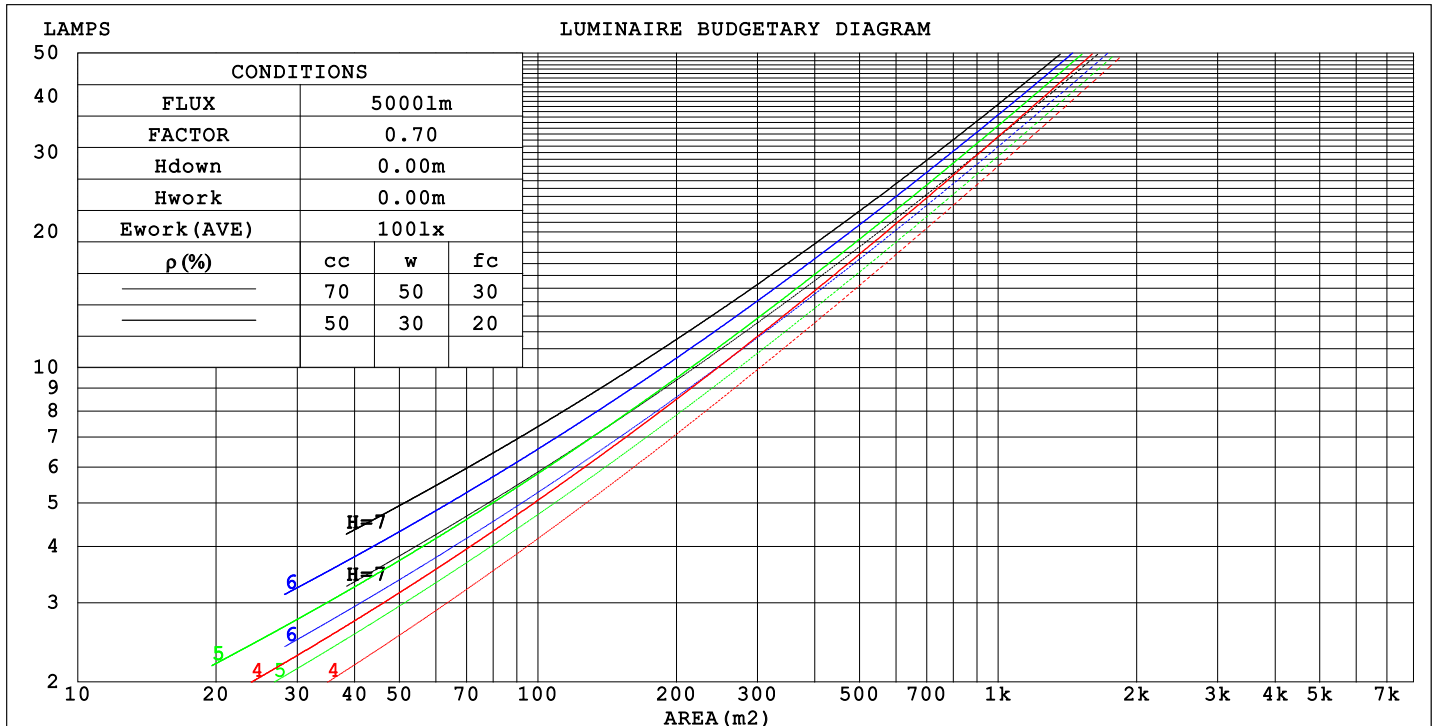
C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 12 August 2022

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: 99LED967	TYPE: 99LED967	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															



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:

WEC AND CCEC

NAME: 99LED967	TYPE: 99LED967	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	.306	.174	.055	.299	.170	.054	.285	.164	.052	.273	.158	.051	.262	.152	.049	
2.0	.289	.158	.049	.283	.156	.048	.271	.151	.047	.260	.146	.046	.251	.142	.045	
3.0	.268	.142	.043	.262	.140	.042	.252	.137	.042	.243	.133	.041	.234	.129	.040	
4.0	.247	.128	.038	.242	.127	.037	.233	.124	.037	.225	.121	.036	.217	.118	.036	
5.0	.229	.116	.034	.224	.115	.034	.216	.113	.033	.209	.110	.033	.202	.108	.032	
6.0	.212	.106	.030	.208	.105	.030	.201	.103	.030	.194	.101	.030	.188	.099	.029	
7.0	.197	.098	.028	.194	.097	.028	.188	.095	.027	.182	.093	.027	.176	.091	.027	
8.0	.184	.090	.025	.181	.089	.025	.176	.088	.025	.170	.086	.025	.165	.085	.025	
9.0	.173	.084	.023	.170	.083	.023	.165	.081	.023	.160	.080	.023	.155	.079	.023	
10.0	.162	.078	.022	.160	.077	.022	.155	.076	.021	.151	.075	.021	.147	.074	.021	

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	.188	.188	.188	.161	.161	.161	.110	.110	.110	.063	.063	.063	.020	.020	.020	
1.0	.178	.154	.133	.152	.132	.114	.104	.091	.079	.060	.053	.046	.019	.017	.015	
2.0	.170	.130	.097	.146	.112	.084	.100	.078	.058	.058	.045	.034	.018	.015	.011	
3.0	.163	.113	.073	.140	.097	.064	.096	.068	.045	.055	.040	.026	.018	.013	.009	
4.0	.155	.100	.057	.133	.086	.050	.092	.060	.035	.053	.035	.021	.017	.011	.007	
5.0	.148	.090	.046	.127	.077	.040	.088	.054	.029	.051	.032	.017	.016	.010	.006	
6.0	.141	.081	.039	.121	.070	.034	.084	.049	.024	.048	.029	.014	.016	.009	.005	
7.0	.134	.075	.033	.115	.065	.029	.080	.045	.020	.046	.027	.012	.015	.009	.004	
8.0	.128	.069	.028	.110	.060	.025	.076	.042	.017	.044	.025	.010	.014	.008	.003	
9.0	.122	.064	.025	.105	.055	.022	.073	.039	.015	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.022	.100	.052	.019	.069	.036	.014	.041	.022	.008	.013	.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: 99LED967					TYPE: 99LED967			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	23.3	24.8	23.5	25.0	25.2	23.2	24.8	23.5	25.0	25.2
3H	24.7	26.1	25.0	26.4	26.6	24.7	26.1	25.0	26.3	26.6
4H	25.3	26.7	25.6	26.9	27.2	25.2	26.6	25.5	26.8	27.1
6H	25.7	27.0	26.0	27.2	27.5	25.6	26.8	25.9	27.1	27.4
8H	25.8	27.0	26.2	27.3	27.6	25.6	26.9	26.0	27.1	27.4
12H	25.9	27.0	26.2	27.3	27.6	25.6	26.8	26.0	27.1	27.4
4H 2H	23.8	25.2	24.2	25.4	25.7	23.8	25.2	24.1	25.4	25.7
3H	25.5	26.7	25.8	27.0	27.3	25.4	26.6	25.8	26.9	27.2
4H	26.2	27.3	26.6	27.6	27.9	26.1	27.2	26.5	27.5	27.8
6H	26.7	27.7	27.1	28.0	28.4	26.6	27.5	27.0	27.9	28.2
8H	26.9	27.8	27.3	28.1	28.5	26.7	27.5	27.1	27.9	28.3
12H	27.0	27.8	27.4	28.2	28.6	26.7	27.5	27.1	27.9	28.3
8H 4H	26.4	27.3	26.8	27.7	28.1	26.4	27.2	26.8	27.6	28.0
6H	27.1	27.8	27.5	28.2	28.7	26.9	27.7	27.4	28.1	28.5
8H	27.3	28.0	27.8	28.4	28.9	27.1	27.7	27.5	28.2	28.6
12H	27.5	28.0	28.0	28.5	29.0	27.1	27.7	27.6	28.1	28.6
12H 4H	26.4	27.2	26.9	27.6	28.0	26.4	27.2	26.8	27.6	28.0
6H	27.1	27.8	27.6	28.2	28.6	27.0	27.6	27.4	28.0	28.5
8H	27.4	27.9	27.9	28.4	28.9	27.2	27.7	27.6	28.2	28.6
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 / - 0.2				

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: 99LED967	TYPE: 99LED967	WEIGHT: 1
SPEC.:	DIM.: 170 x 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

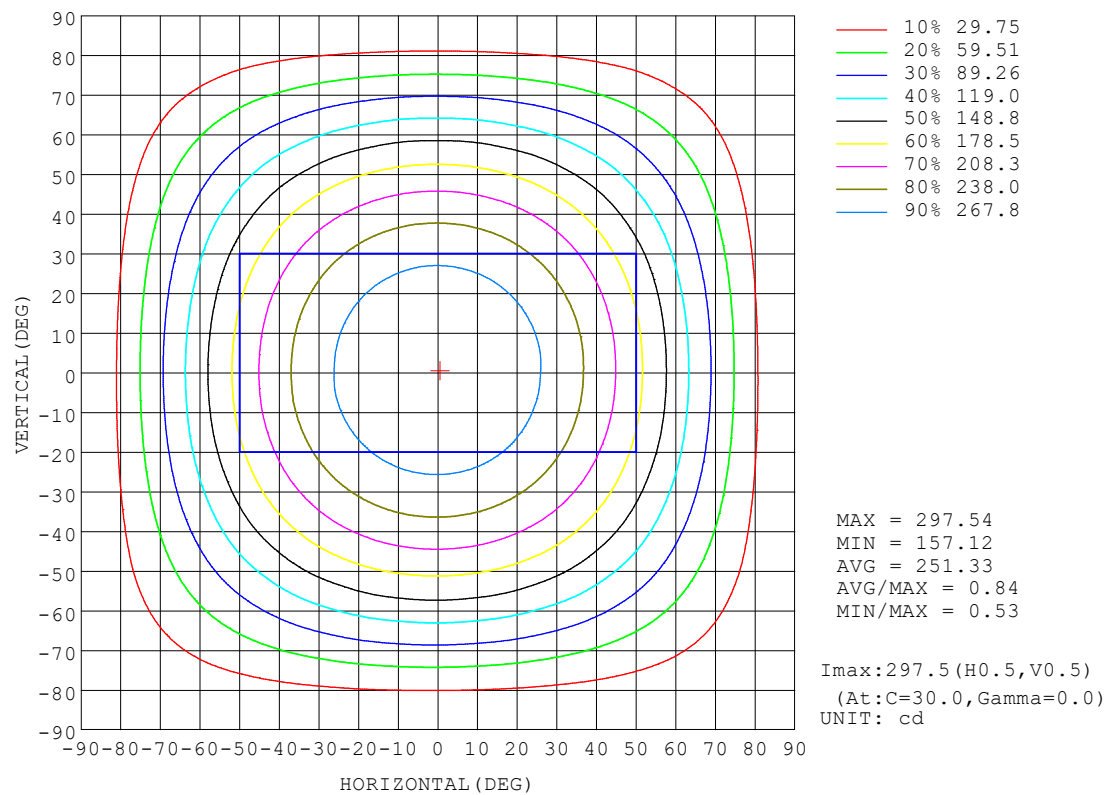
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	56	45	38	56	45	38	55	44	38	31
0.80	66	55	48	65	54	47	64	54	47	40
1.00	75	64	56	74	63	56	71	65	56	49
1.25	82	71	64	80	71	64	78	69	63	56
1.50	87	77	70	85	76	70	82	74	69	61
2.00	94	85	79	92	84	78	88	82	77	69
2.50	98	90	84	96	89	83	92	86	81	73
3.00	101	94	89	99	93	88	95	90	86	77
4.00	105	99	95	103	98	93	98	94	91	82
5.00	107	103	99	105	101	97	101	97	94	85
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: 99LED967	TYPE: 99LED967	WEIGHT: 1
SPEC.:	DIM.: 170 x 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

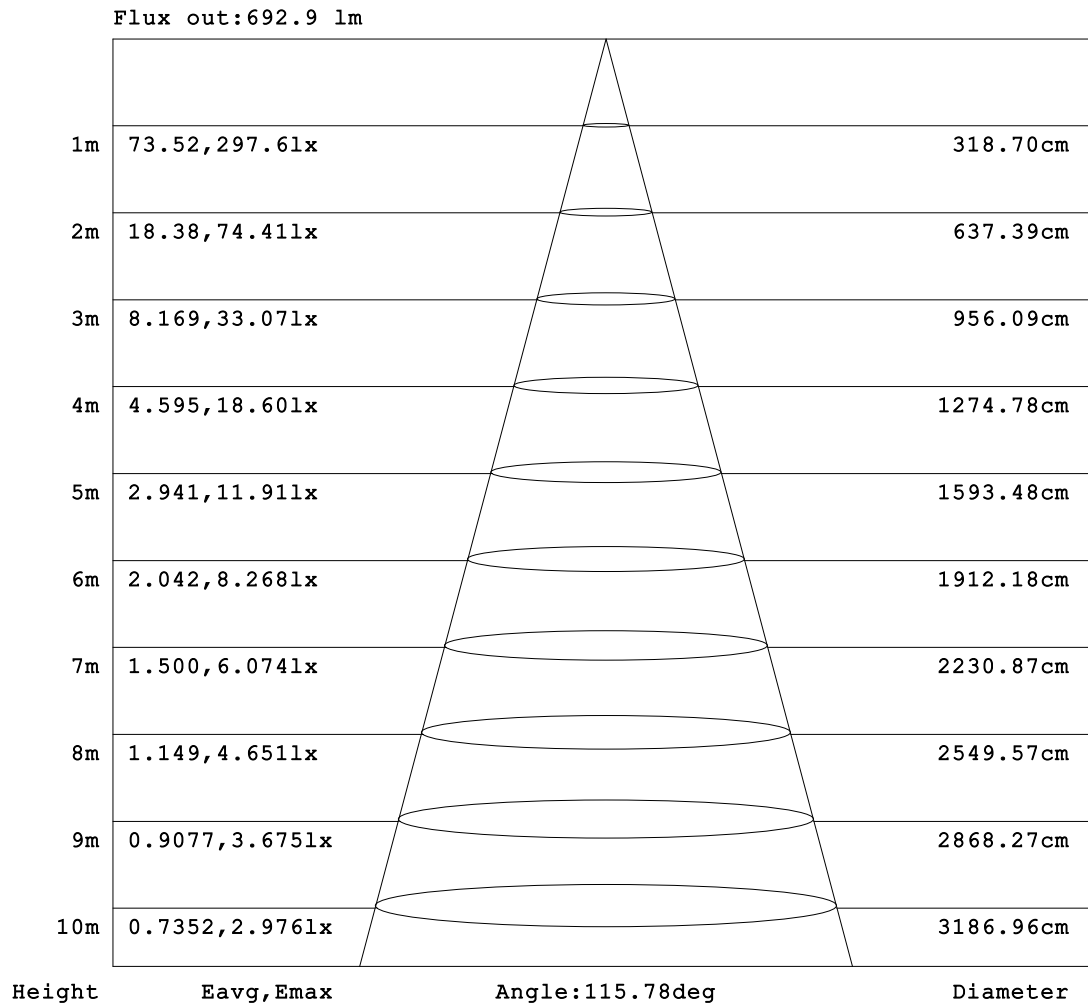


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 12 August 2022

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: 99LED967	TYPE: 99LED967	WEIGHT: 1
SPEC.:	DIM.: 170 x 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:



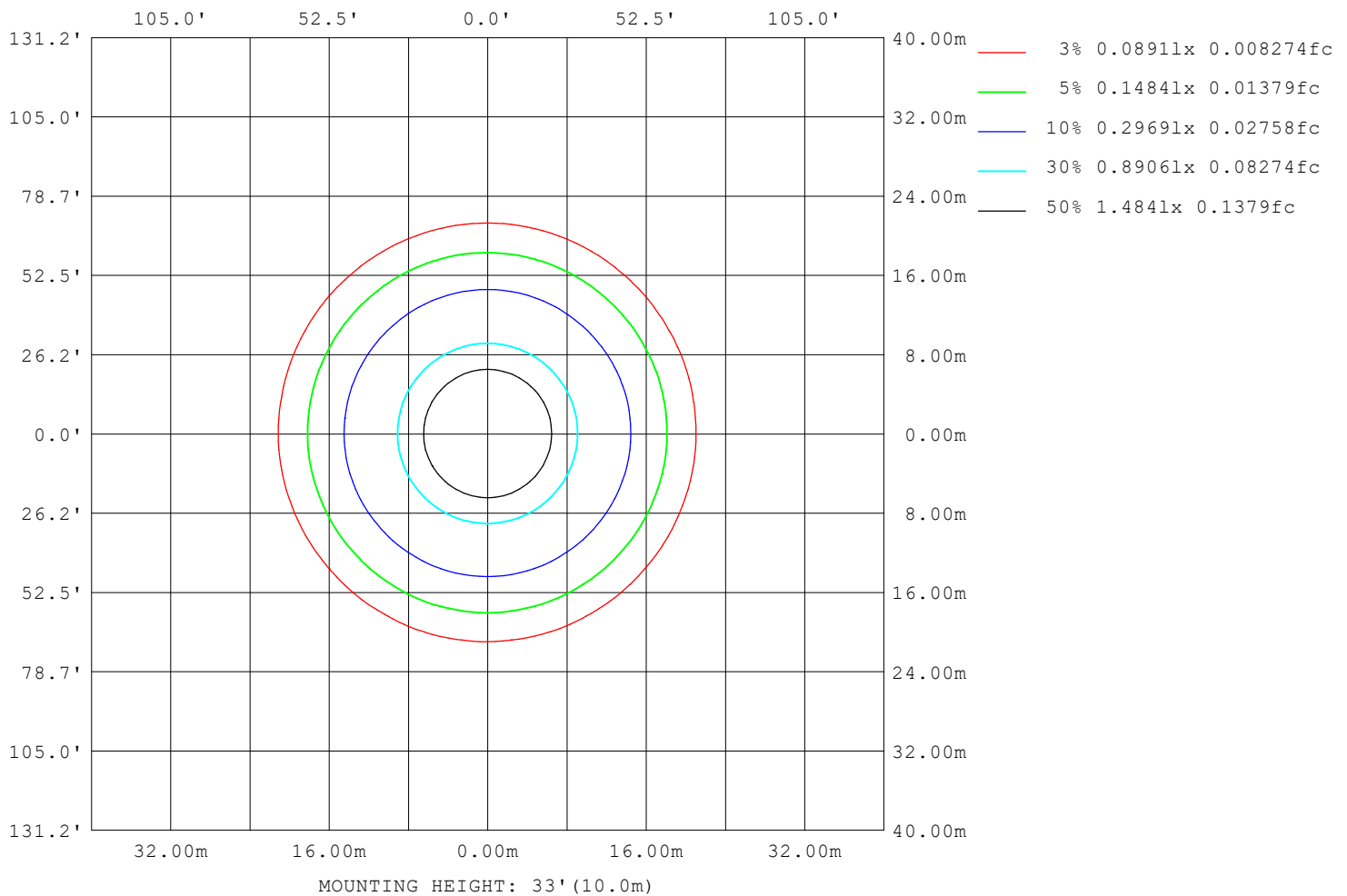
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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: 99LED967	TYPE: 99LED967	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: 99LED967	TYPE: 99LED967	WEIGHT: 1
SPEC.:	DIM.: 170 x 170	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

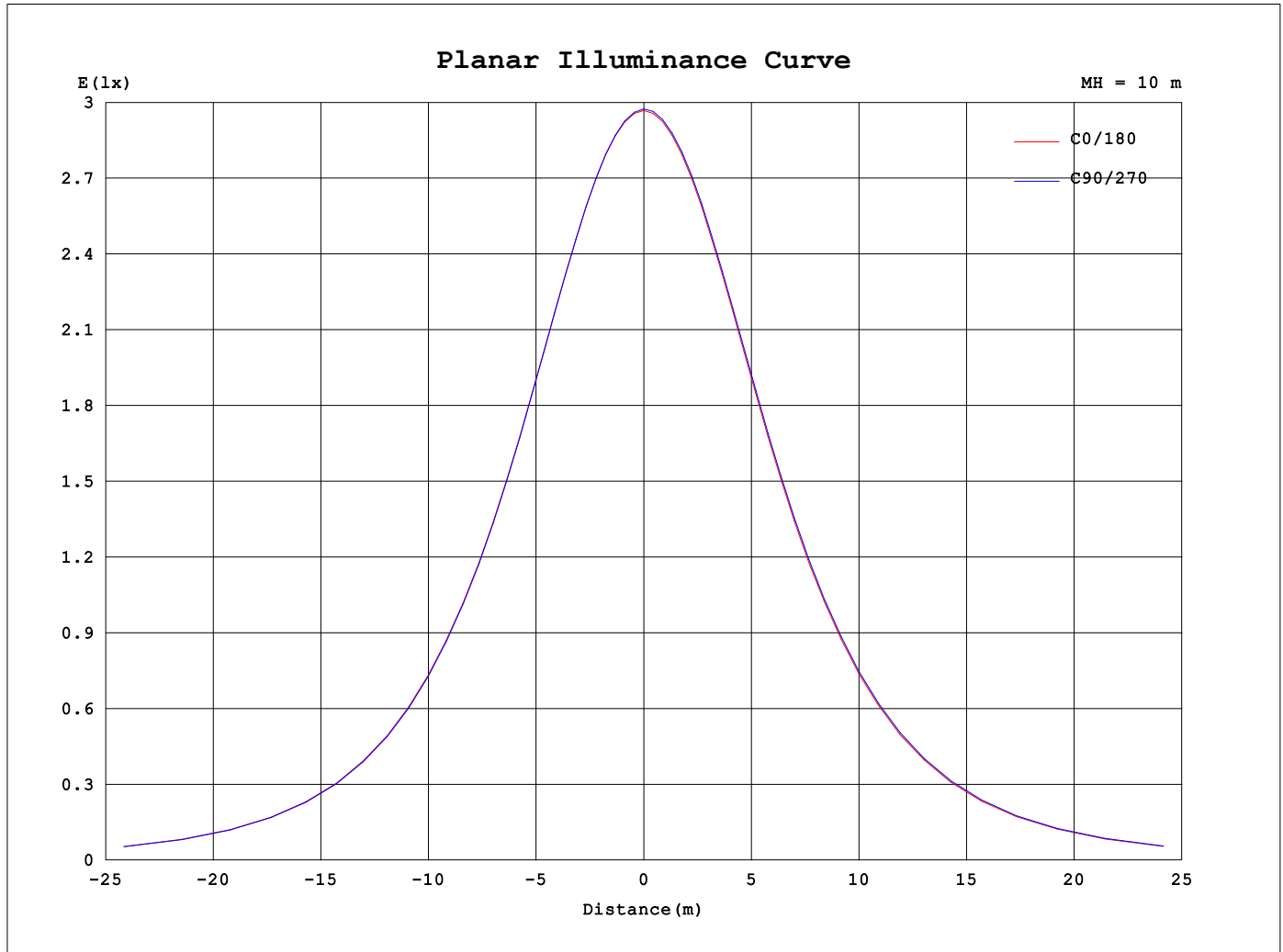
AvgL	cd/m2
L_0~180 (65) av	16566
L_0~180 (75) av	14408
L_0~180 (85) av	9670
L_90~270 (65) av	16649
L_90~270 (75) av	14168
L_90~270 (85) av	7439
L_45 (65) av	16499
L_45 (75) av	14313
L_45 (85) av	8649

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:

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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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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:

```