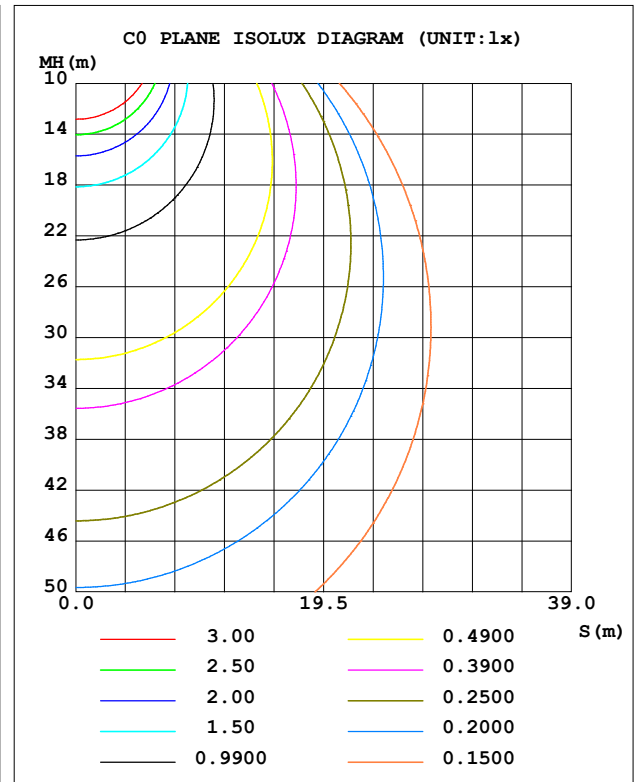
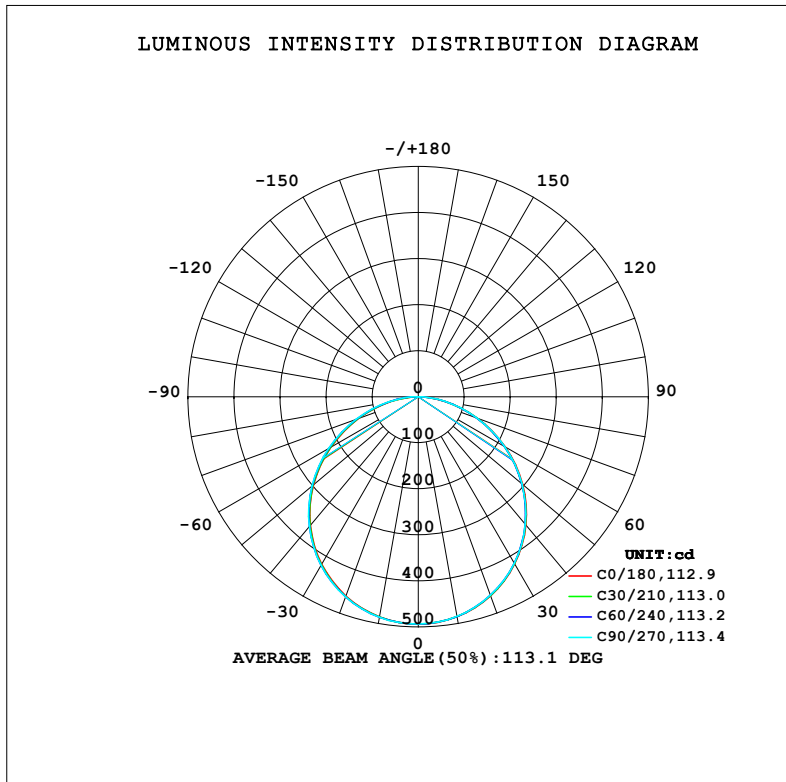


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 99LED968	TYPE: 99LED968	WEIGHT: 1
SPEC.:	DIM.: 225 x 225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99LED968	I _{max} (cd)	493.6	S/MH (C0/180)	1.26
NOMINAL POWER (W)	18	LOR (%)	100.7	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	1429.7	η UP, DN (C0-180)	0.0, 49.9
NOMINAL FLUX (lm)	1420	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.8
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	100.7	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators:
Test Date: 15 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	485.1	484.5	484.4	484.8	485.4	485.9	486.3	485.9	0- 10	46.72	46.72	3.27,3.29
20	460.1	459.0	458.8	459.3	460.5	461.7	462.3	461.5	10- 20	134.0	180.7	12.6,12.7
30	419.1	417.6	417.5	417.9	419.8	421.6	422.6	421.3	20- 30	203.7	384.4	26.9,27.1
40	363.7	361.7	361.7	362.1	364.5	366.9	368.2	366.5	30- 40	246.3	630.7	44.1,44.4
50	295.6	293.4	293.7	293.9	296.6	299.6	301.3	299.1	40- 50	255.9	886.6	62,62.4
60	218.1	216.0	216.7	216.5	219.0	222.7	225.0	222.1	50- 60	231.4	1118	78.2,78.7
70	136.5	134.9	136.1	135.3	137.5	141.4	143.9	140.8	60- 70	177.1	1295	90.6,91.2
80	57.92	58.16	59.17	58.63	59.43	63.69	65.89	62.97	70- 80	104.3	1399	97.9,98.5
90	0.8445	0.8565	0.8495	0.8529	0.7328	0.9246	1.590	0.8175	80- 90	30.37	1430	100,101
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): 759.61 lm

%lum = 53.1%
%lamp = 53.5%

Conical surface Flux(130deg): 1214.8 lm

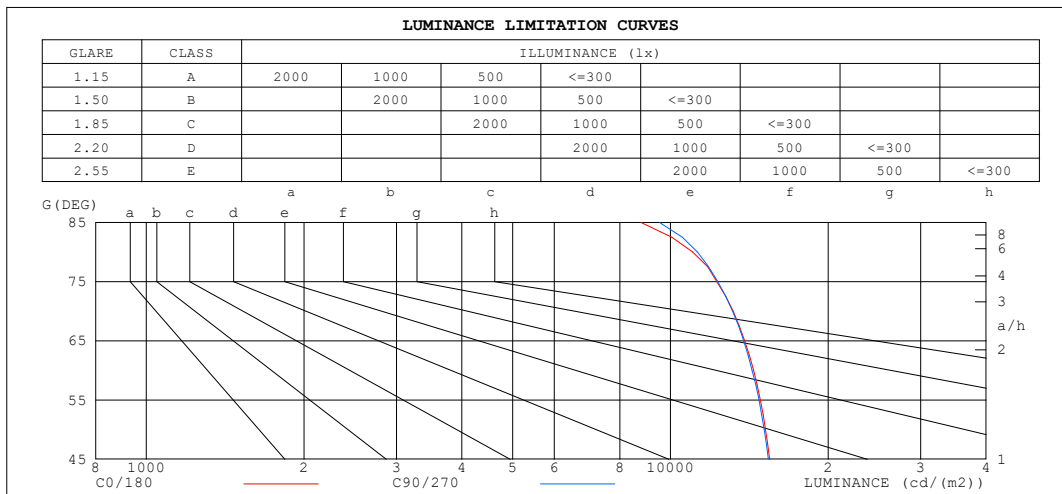
%lum = 85.0%
%lamp = 85.6%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:15 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: 99LED968	TYPE: 99LED968	WEIGHT: 1
SPEC.:	DIM.: 225 x 225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	8789	9530
80	11008	11253
75	12252	12310
70	13168	13137
65	13843	13790
60	14398	14315
55	14836	14746
50	15180	15089
45	15450	15368

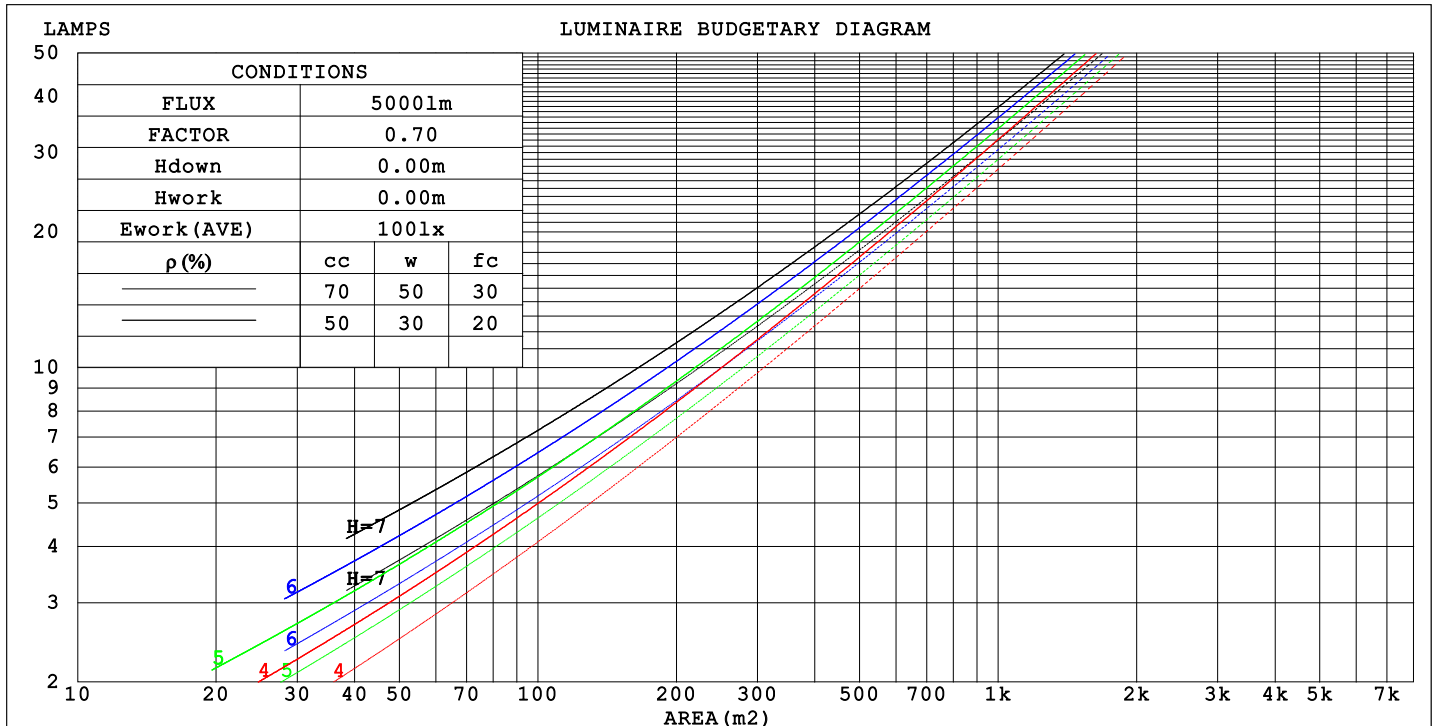
C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators:
 Test Date: 15 August 2022

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: 99LED968	TYPE: 99LED968	WEIGHT: 1
SPEC.:	DIM.: 225 x 225	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: HIGH
Temperature:25.3°C
Operators:
Test Date:15 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: 99LED968	TYPE: 99LED968	WEIGHT: 1
SPEC.:	DIM.: 225 x 225	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	.316	.180	.057	.309	.176	.056	.296	.170	.054	.283	.163	.052	.272	.158	.051	
2.0	.297	.163	.050	.290	.160	.049	.278	.155	.048	.268	.150	.047	.258	.146	.046	
3.0	.274	.146	.044	.268	.144	.043	.258	.140	.042	.248	.136	.042	.239	.132	.041	
4.0	.252	.131	.039	.248	.130	.038	.238	.126	.038	.230	.123	.037	.222	.120	.037	
5.0	.233	.119	.034	.229	.117	.034	.221	.115	.034	.213	.112	.033	.206	.110	.033	
6.0	.216	.108	.031	.212	.107	.031	.205	.105	.031	.198	.103	.030	.192	.101	.030	
7.0	.201	.099	.028	.198	.098	.028	.191	.097	.028	.185	.095	.028	.179	.093	.027	
8.0	.188	.092	.026	.185	.091	.026	.179	.089	.025	.173	.088	.025	.168	.086	.025	
9.0	.176	.085	.024	.173	.084	.024	.168	.083	.024	.163	.082	.023	.158	.080	.023	
10.0	.165	.079	.022	.163	.079	.022	.158	.077	.022	.154	.076	.022	.149	.075	.022	

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	.192	.192	.192	.164	.164	.164	.112	.112	.112	.064	.064	.064	.021	.021	.021	
1.0	.182	.157	.135	.156	.135	.116	.106	.093	.080	.061	.054	.047	.020	.017	.015	
2.0	.174	.133	.098	.149	.114	.085	.102	.079	.059	.059	.046	.035	.019	.015	.011	
3.0	.166	.115	.075	.142	.099	.065	.098	.069	.045	.056	.040	.027	.018	.013	.009	
4.0	.158	.102	.058	.136	.088	.051	.093	.061	.036	.054	.036	.021	.017	.012	.007	
5.0	.151	.091	.047	.130	.079	.041	.089	.055	.029	.052	.032	.017	.017	.011	.006	
6.0	.144	.083	.039	.123	.072	.034	.085	.050	.024	.049	.030	.014	.016	.010	.005	
7.0	.137	.076	.033	.118	.066	.029	.081	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.130	.070	.029	.112	.061	.025	.078	.043	.018	.045	.025	.011	.015	.008	.004	
9.0	.124	.065	.025	.107	.056	.022	.074	.040	.016	.043	.023	.009	.014	.008	.003	
10.0	.118	.061	.023	.102	.053	.020	.071	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:15 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: 99LED968					TYPE: 99LED968			WEIGHT: 1			
SPEC.:					DIM.: 225 x 225			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	21.0	22.5	21.2	22.7	22.9	21.0	22.5	21.2	22.7	22.9
	3H	22.5	23.9	22.8	24.2	24.4	22.5	23.9	22.8	24.1	24.4
	4H	23.1	24.5	23.4	24.7	25.0	23.1	24.4	23.4	24.7	24.9
	6H	23.6	24.8	23.9	25.1	25.4	23.5	24.8	23.9	25.1	25.4
	8H	23.7	24.9	24.0	25.2	25.5	23.7	24.9	24.0	25.2	25.5
	12H	23.7	24.9	24.1	25.2	25.5	23.8	24.9	24.1	25.2	25.5
4H	2H	21.6	22.9	21.9	23.2	23.4	21.6	22.9	21.9	23.2	23.4
	3H	23.3	24.5	23.6	24.8	25.1	23.3	24.4	23.6	24.7	25.0
	4H	24.0	25.1	24.4	25.4	25.8	24.0	25.1	24.4	25.4	25.7
	6H	24.6	25.5	25.0	25.9	26.3	24.6	25.5	25.0	25.9	26.3
	8H	24.8	25.7	25.2	26.0	26.4	24.8	25.7	25.2	26.0	26.4
	12H	24.9	25.7	25.3	26.1	26.5	24.9	25.7	25.3	26.1	26.5
8H	4H	24.3	25.2	24.7	25.5	25.9	24.3	25.2	24.7	25.5	25.9
	6H	25.0	25.7	25.4	26.2	26.6	25.0	25.8	25.5	26.2	26.6
	8H	25.3	25.9	25.7	26.4	26.8	25.3	26.0	25.8	26.4	26.8
	12H	25.5	26.0	25.9	26.5	27.0	25.5	26.1	26.0	26.5	27.0
12H	4H	24.3	25.1	24.7	25.5	25.9	24.3	25.1	24.7	25.5	25.9
	6H	25.1	25.7	25.5	26.2	26.6	25.1	25.7	25.5	26.2	26.6
	8H	25.4	25.9	25.9	26.4	26.9	25.4	26.0	25.9	26.4	26.9
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H		+ 0.1 / - 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, 1420 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.2)
Area: 0.030276 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:15 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: 99LED968	TYPE: 99LED968	WEIGHT: 1
SPEC.:	DIM.: 225 x 225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

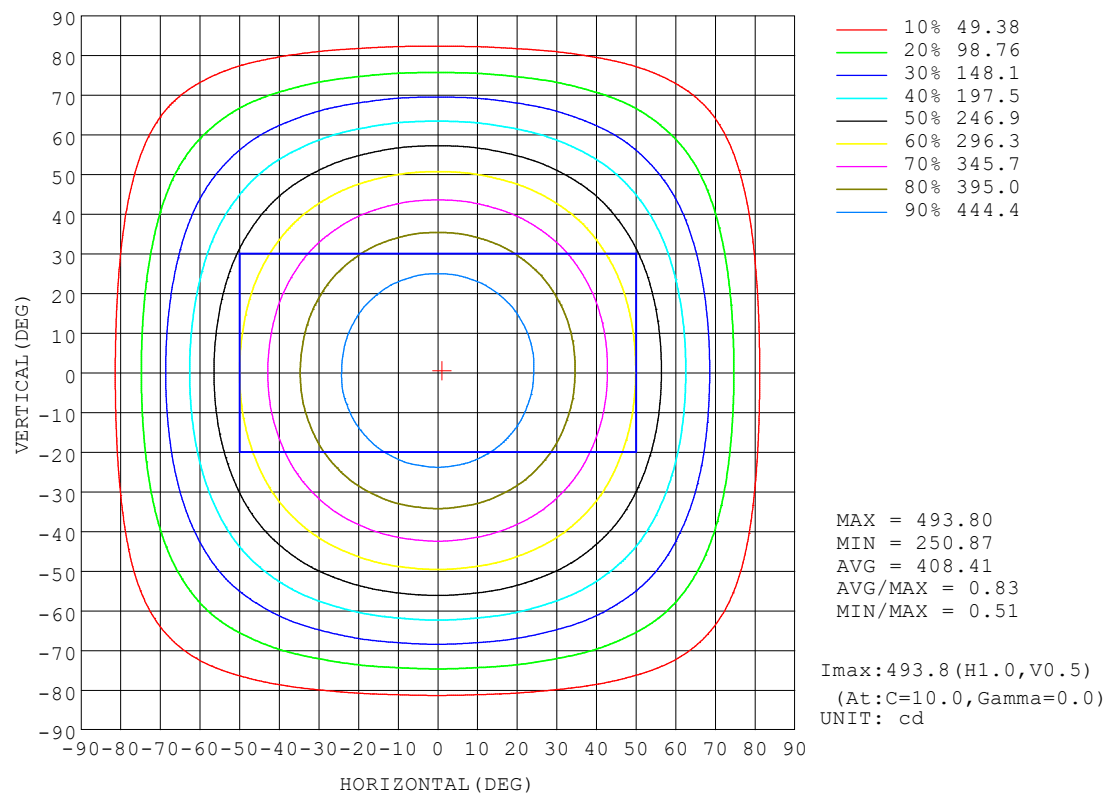
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	58	46	39	57	46	39	56	45	39	32
0.80	68	56	48	67	56	48	65	55	48	41
1.00	76	65	57	75	64	57	73	66	57	49
1.25	83	73	65	82	72	65	79	71	64	57
1.50	88	78	71	87	77	71	84	76	70	62
2.00	95	87	80	93	85	79	90	83	78	70
2.50	99	91	85	97	90	84	93	87	82	74
3.00	103	96	90	101	94	89	96	91	87	78
4.00	107	101	96	104	99	95	100	96	92	83
5.00	109	104	100	107	102	99	102	99	95	86
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: HIGH
Temperature: 25.3°C
Operators:
Test Date: 15 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: 99LED968	TYPE: 99LED968	WEIGHT: 1
SPEC.:	DIM.: 225 x 225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

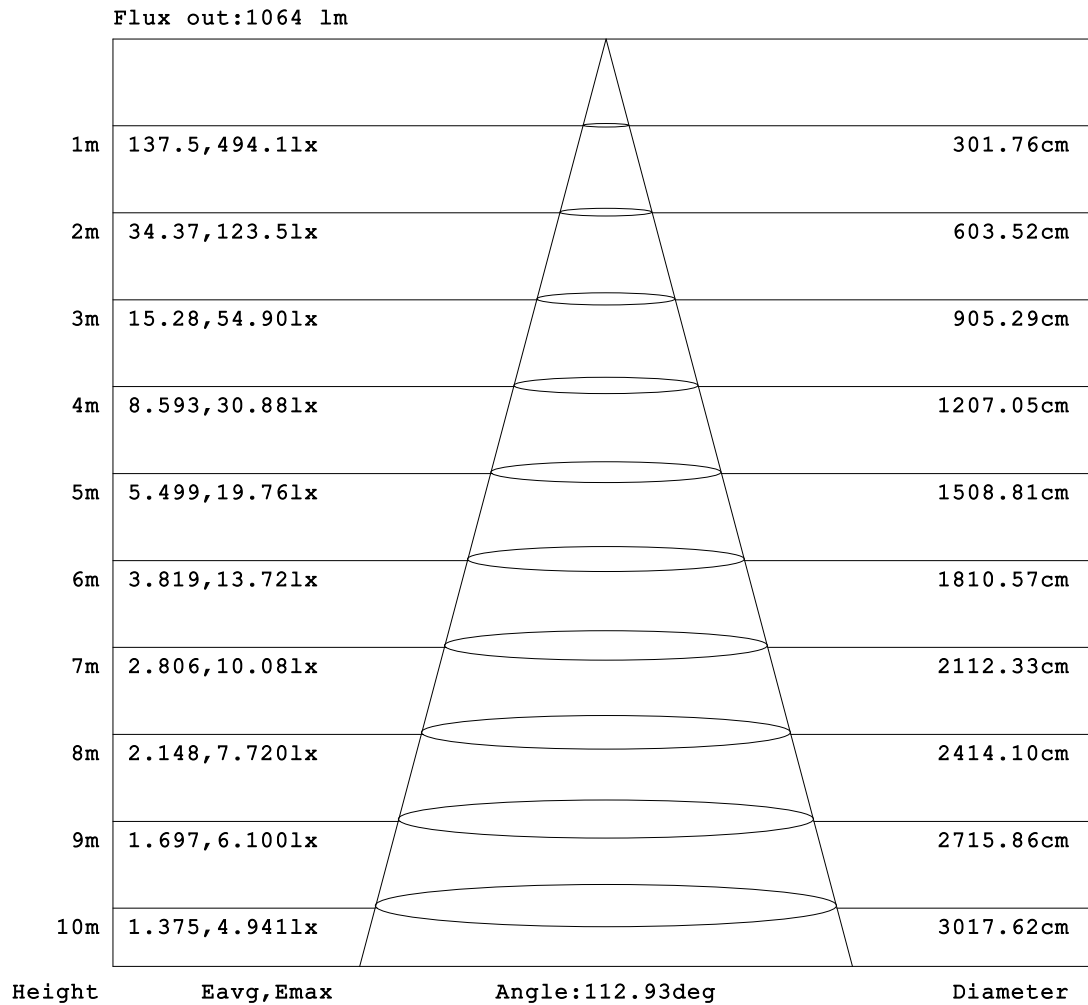


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators:
 Test Date: 15 August 2022

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: 99LED968	TYPE: 99LED968	WEIGHT: 1
SPEC.:	DIM.: 225 x 225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:



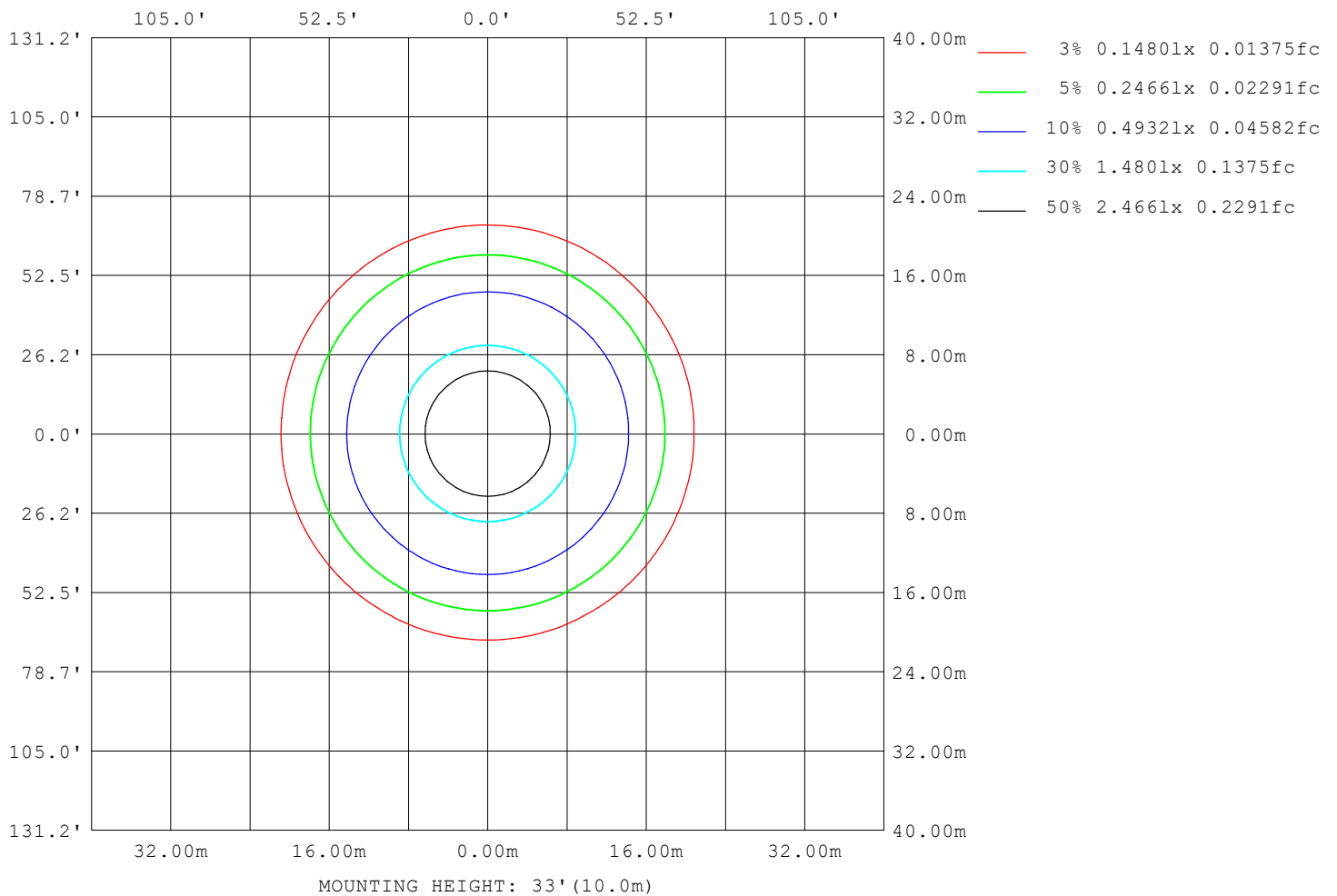
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:15 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: 99LED968	TYPE: 99LED968	WEIGHT: 1
SPEC.:	DIM.: 225 x 225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators:
Test Date: 15 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: 99LED968	TYPE: 99LED968	WEIGHT: 1
SPEC.:	DIM.: 225 x 225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

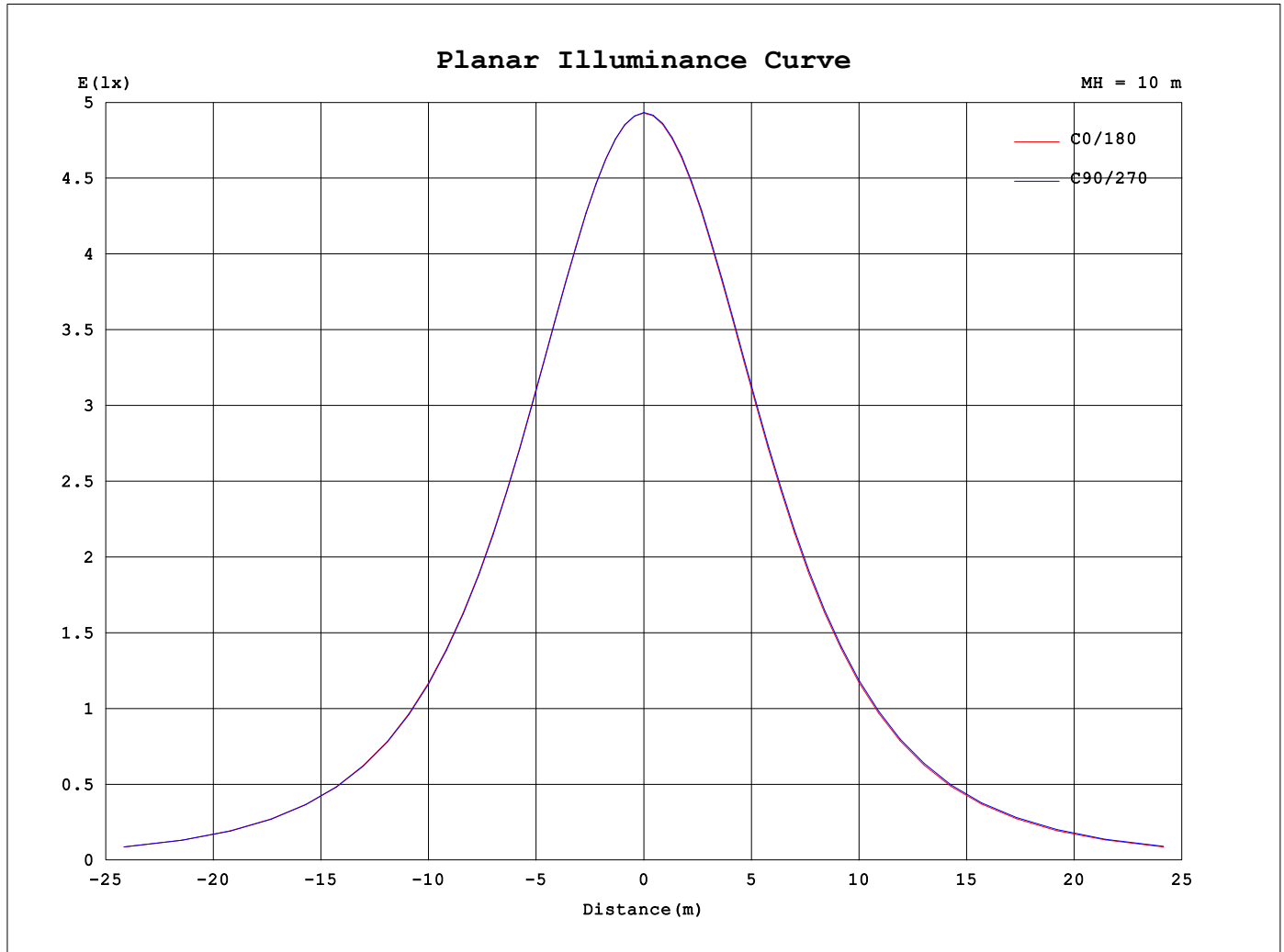
AvgL	cd/m2
L_0~180 (65) av	13892
L_0~180 (75) av	12347
L_0~180 (85) av	9056
L_90~270 (65) av	14108
L_90~270 (75) av	12785
L_90~270 (85) av	10644
L_45 (65) av	13974
L_45 (75) av	12544
L_45 (85) av	9820

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:15 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: HIGH
 Temperature: 25.3°C
 Operators:
 Test Date: 15 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:

```