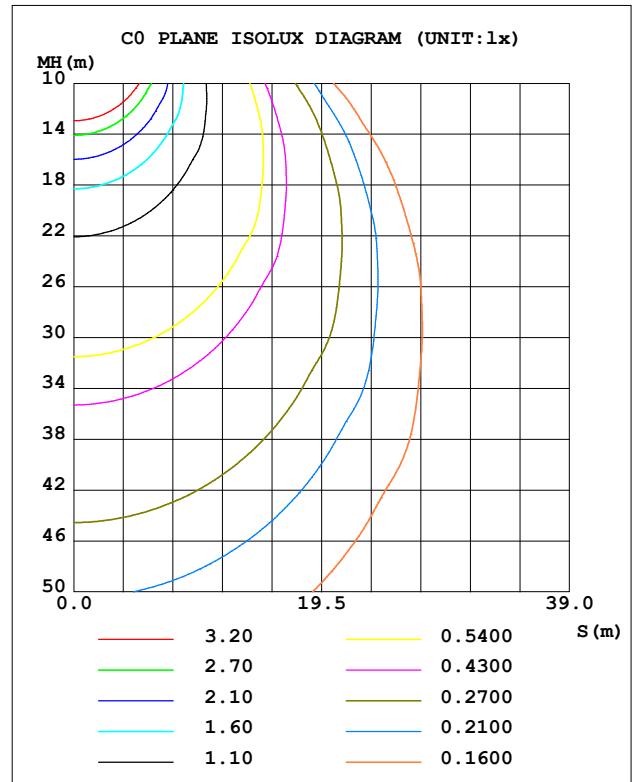
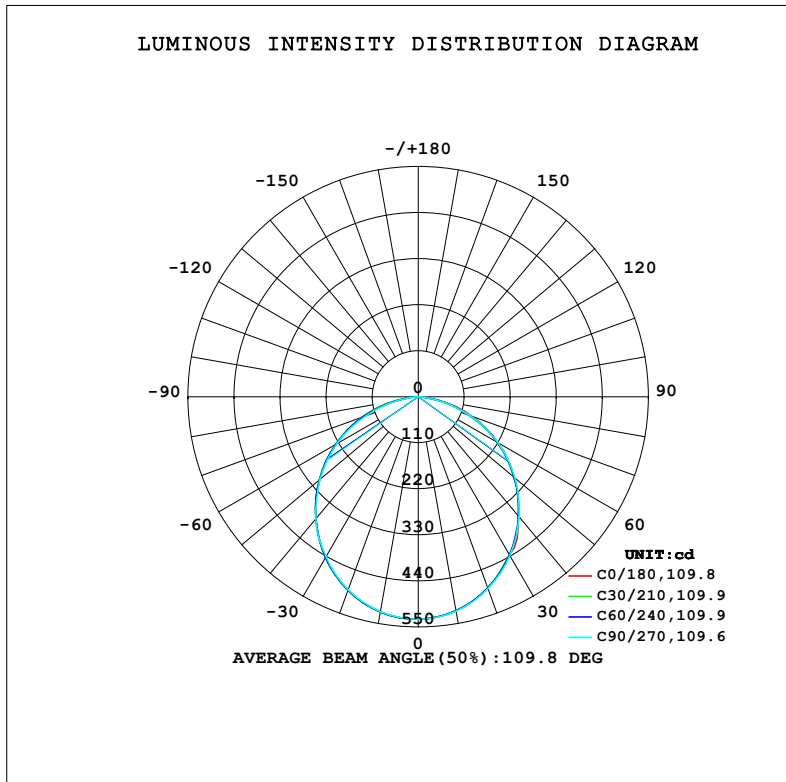


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 99LED962	TYPE: 99LED962	WEIGHT: 1
SPEC.:	DIM.: F 174	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99LED962	I _{max} (cd)	531.4	S/MH (C0/180)	1.24
NOMINAL POWER (W)	18	LOR (%)	95.4	S/MH (C90/270)	1.24
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	1459.5	η UP, DN (C0-180)	0.0, 47.4
NOMINAL FLUX (lm)	1530	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 48.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	95.4	CIBSE SHR MAX	1.35



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	518.9	519.0	519.8	521.1	522.1	522.1	521.3	519.9	0- 10	50.21	50.21	3.44, 3.28
20	485.9	486.0	487.7	489.9	491.7	491.8	490.4	487.9	10- 20	143.0	193.2	13.2, 12.6
30	435.7	435.6	437.8	441.0	443.4	443.4	441.5	438.2	20- 30	214.8	408.0	28, 26.7
40	372.0	372.9	374.6	378.4	381.1	381.0	380.8	378.9	30- 40	257.0	665.0	45.6, 43.5
50	298.7	299.4	301.4	305.6	308.5	308.3	306.2	302.2	40- 50	263.6	928.6	63.6, 60.7
60	218.6	218.7	220.6	225.4	228.3	228.1	224.4	223.4	50- 60	236.5	1165	79.8, 76.2
70	134.0	131.6	130.4	138.3	143.6	140.5	134.1	135.1	60- 70	178.4	1344	92.1, 87.8
80	49.77	45.38	41.15	50.51	57.52	52.79	45.06	48.07	70- 80	96.99	1441	98.7, 94.2
90	2.145	0.7958	0.7525	0.7882	1.468	0.6829	0.6653	0.6955	80- 90	18.91	1459	100, 95.4
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): 798.16 lm

%lum = 54.7%

%lamp = 52.2%

Conical surface Flux(130deg): 1263.4 lm

%lum = 86.6%

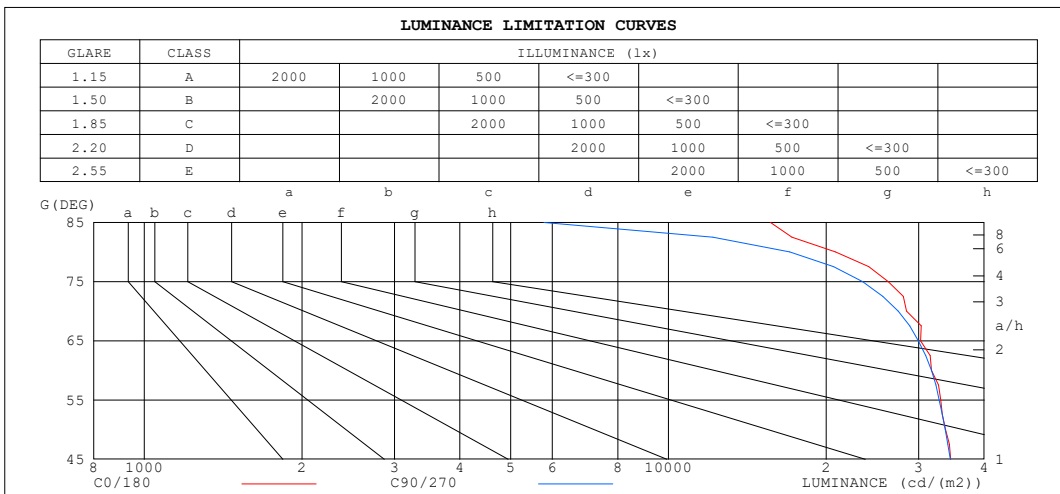
%lamp = 82.6%

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: 99LED962	TYPE: 99LED962	WEIGHT: 1
SPEC.:	DIM.: F 174	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle	Shielding Angle:



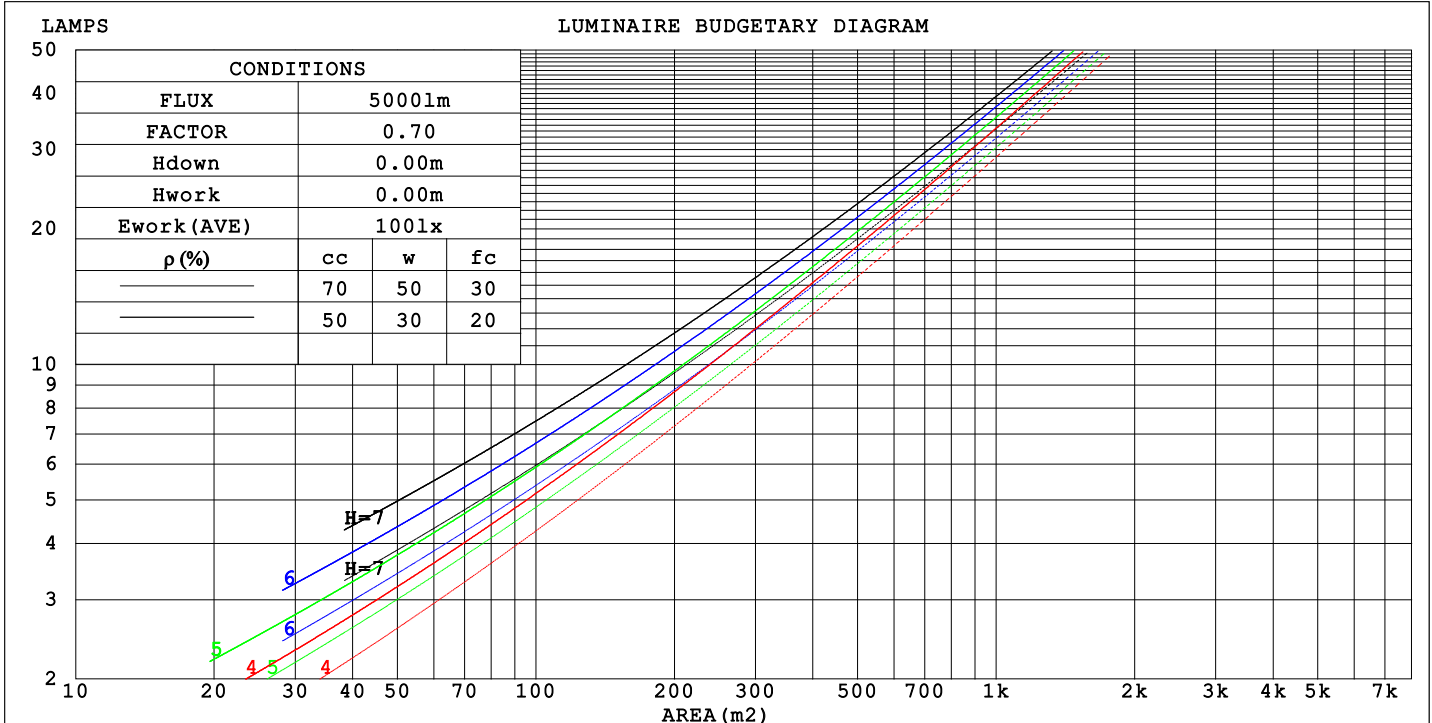
C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 11 August 2022

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: 99LED962	TYPE: 99LED962	WEIGHT: 1
SPEC.:	DIM.: F 174	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: 99LED962	TYPE: 99LED962	WEIGHT: 1
SPEC.:	DIM.: F 174	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	.287	.163	.052	.281	.160	.051	.268	.154	.049	.256	.148	.047	.246	.142	.046	
2.0	.273	.150	.046	.267	.147	.045	.256	.142	.044	.246	.138	.043	.236	.134	.042	
3.0	.254	.135	.040	.249	.133	.040	.239	.129	.039	.230	.126	.039	.221	.123	.038	
4.0	.235	.122	.036	.230	.121	.036	.222	.118	.035	.214	.115	.035	.206	.112	.034	
5.0	.218	.111	.032	.214	.110	.032	.206	.107	.032	.199	.105	.031	.192	.103	.031	
6.0	.202	.101	.029	.199	.100	.029	.192	.098	.029	.185	.096	.028	.179	.094	.028	
7.0	.188	.093	.026	.185	.092	.026	.179	.090	.026	.173	.089	.026	.168	.087	.026	
8.0	.176	.086	.024	.173	.085	.024	.168	.084	.024	.162	.082	.024	.158	.081	.024	
9.0	.165	.080	.022	.162	.079	.022	.158	.078	.022	.153	.077	.022	.148	.075	.022	
10.0	.155	.074	.021	.153	.074	.021	.148	.073	.020	.144	.072	.020	.140	.071	.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	.182	.182	.182	.155	.155	.155	.106	.106	.106	.061	.061	.061	.019	.019	.019	
1.0	.171	.149	.129	.147	.128	.111	.100	.088	.077	.058	.051	.045	.018	.016	.014	
2.0	.164	.126	.094	.140	.108	.081	.096	.075	.057	.055	.044	.033	.018	.014	.011	
3.0	.156	.109	.071	.134	.094	.062	.092	.065	.043	.053	.038	.026	.017	.012	.008	
4.0	.149	.096	.056	.128	.083	.049	.088	.058	.034	.051	.034	.020	.016	.011	.007	
5.0	.142	.086	.045	.122	.075	.039	.084	.052	.028	.049	.031	.017	.016	.010	.005	
6.0	.135	.078	.038	.116	.068	.033	.080	.047	.023	.046	.028	.014	.015	.009	.005	
7.0	.129	.072	.032	.111	.062	.028	.076	.044	.020	.044	.026	.012	.014	.008	.004	
8.0	.123	.066	.028	.106	.057	.024	.073	.040	.017	.042	.024	.010	.014	.008	.003	
9.0	.117	.061	.024	.101	.053	.021	.070	.038	.015	.041	.022	.009	.013	.007	.003	
10.0	.111	.057	.021	.096	.050	.019	.067	.035	.013	.039	.021	.008	.013	.007	.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: 99LED962					TYPE: 99LED962			WEIGHT: 1		
SPEC.:					DIM.: F 174			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	23.5	25.0	23.8	25.2	25.4	23.5	25.0	23.7	25.2	25.4
3H	25.0	26.4	25.3	26.6	26.8	24.9	26.3	25.2	26.5	26.7
4H	25.5	26.9	25.9	27.1	27.4	25.3	26.7	25.7	26.9	27.2
6H	25.9	27.1	26.2	27.4	27.7	25.6	26.8	25.9	27.1	27.4
8H	26.0	27.2	26.3	27.5	27.8	25.6	26.8	25.9	27.1	27.4
12H	26.0	27.2	26.4	27.5	27.8	25.5	26.7	25.9	27.0	27.3
4H 2H	24.1	25.4	24.4	25.6	25.9	24.0	25.4	24.4	25.6	25.9
3H	25.7	26.9	26.1	27.2	27.5	25.6	26.8	26.0	27.1	27.4
4H	26.4	27.5	26.8	27.8	28.1	26.2	27.3	26.6	27.6	27.9
6H	26.9	27.8	27.3	28.2	28.5	26.5	27.5	26.9	27.8	28.2
8H	27.0	27.9	27.4	28.2	28.6	26.6	27.4	27.0	27.8	28.2
12H	27.1	27.9	27.5	28.2	28.6	26.5	27.3	27.0	27.7	28.1
8H 4H	26.6	27.5	27.0	27.8	28.2	26.4	27.3	26.8	27.7	28.0
6H	27.2	27.9	27.6	28.3	28.7	26.8	27.6	27.3	28.0	28.4
8H	27.4	28.0	27.8	28.4	28.9	26.9	27.5	27.4	28.0	28.4
12H	27.5	28.0	28.0	28.5	29.0	26.9	27.4	27.4	27.9	28.4
12H 4H	26.6	27.4	27.0	27.8	28.2	26.4	27.2	26.8	27.6	28.0
6H	27.2	27.8	27.7	28.3	28.7	26.9	27.5	27.3	27.9	28.4
8H	27.4	27.9	27.9	28.4	28.9	26.9	27.5	27.4	27.9	28.4
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 / - 0.3					+ 0.3 / - 0.3				

CIE Pub.117, 1530 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.5)
Area: 0.013886 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: 99LED962	TYPE: 99LED962	WEIGHT: 1
SPEC.:	DIM.: F 174	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle	Shielding Angle:

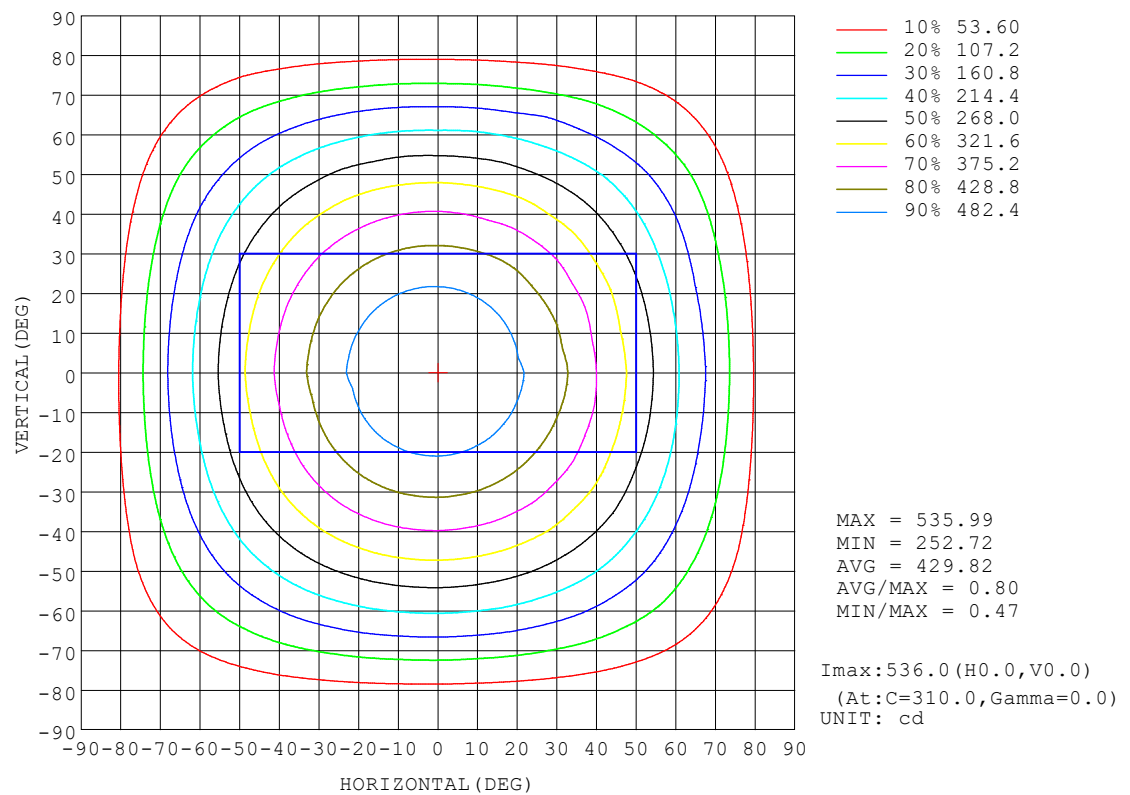
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	55	44	38	55	44	38	54	44	38	31
0.80	65	54	47	64	54	47	62	53	46	40
1.00	73	63	56	72	62	55	70	63	55	48
1.25	80	70	63	78	69	63	76	68	62	55
1.50	85	75	69	83	74	68	80	73	67	60
2.00	91	83	77	89	82	76	86	80	75	67
2.50	95	87	82	93	86	81	89	84	79	71
3.00	98	92	86	96	90	85	92	87	83	75
4.00	102	96	92	99	95	91	95	92	88	80
5.00	104	100	96	102	98	94	97	94	91	83
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: 99LED962	TYPE: 99LED962	WEIGHT: 1
SPEC.:	DIM.: F 174	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle	Shielding Angle:

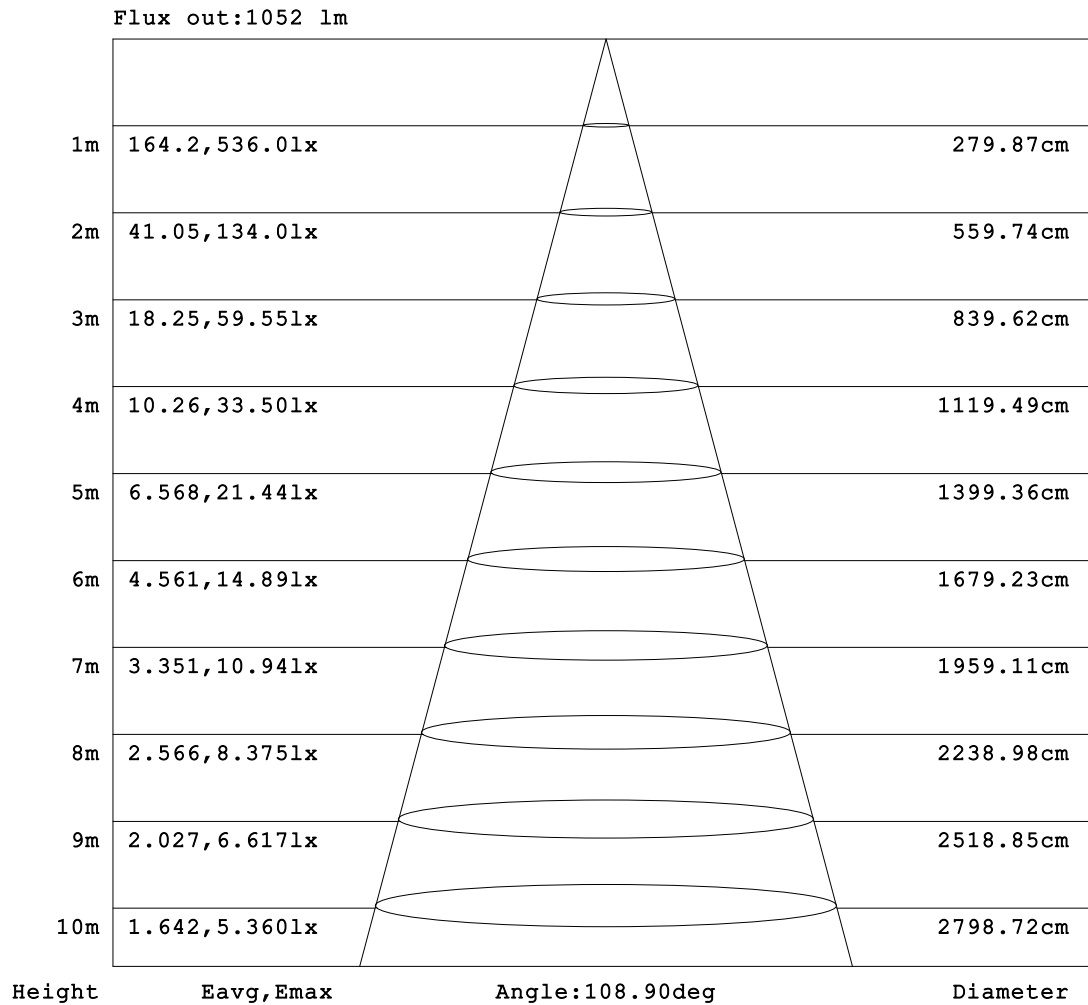


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 11 August 2022

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: 99LED962	TYPE: 99LED962	WEIGHT: 1
SPEC.:	DIM.: F 174	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle	Shielding Angle:



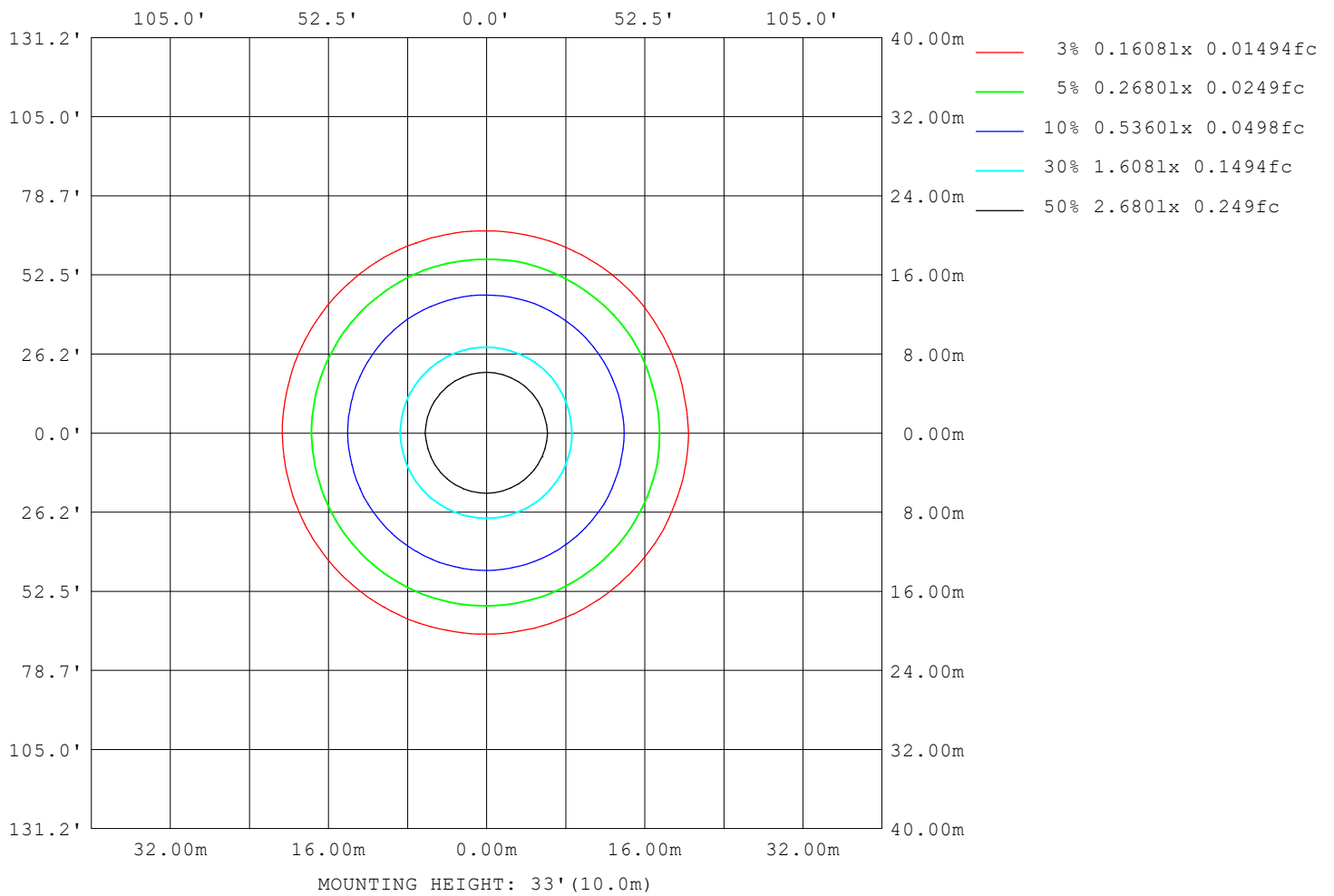
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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: 99LED962	TYPE: 99LED962	WEIGHT: 1
SPEC.:	DIM.: F 174	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: 99LED962	TYPE: 99LED962	WEIGHT: 1
SPEC.:	DIM.: F 174	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle	Shielding Angle:

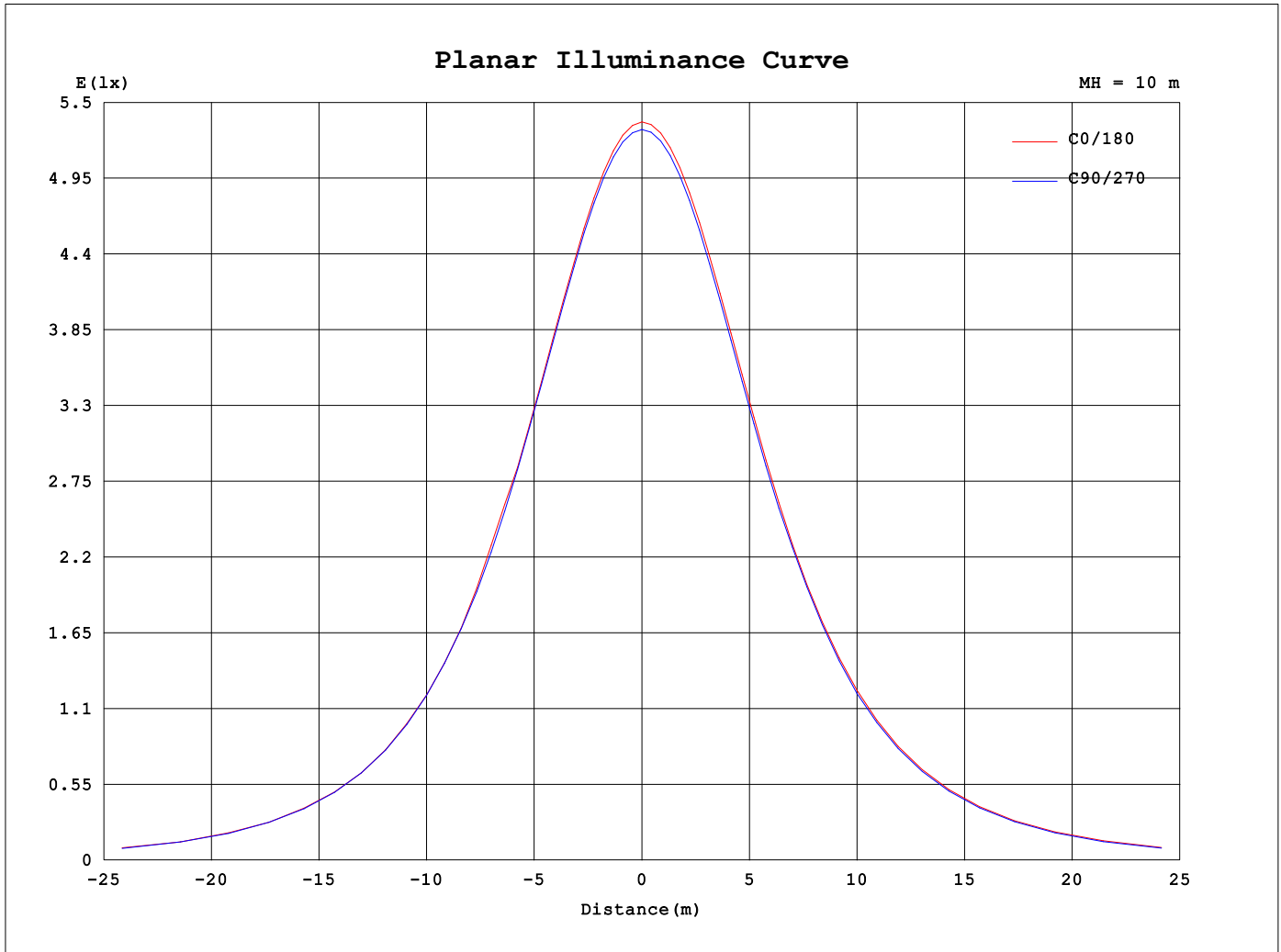
AvgL	cd/m2
L_0~180 (65) av	30872
L_0~180 (75) av	27047
L_0~180 (85) av	16988
L_90~270 (65) av	30346
L_90~270 (75) av	24069
L_90~270 (85) av	6984
L_45 (65) av	30805
L_45 (75) av	25503
L_45 (85) av	10503

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:

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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:

```

