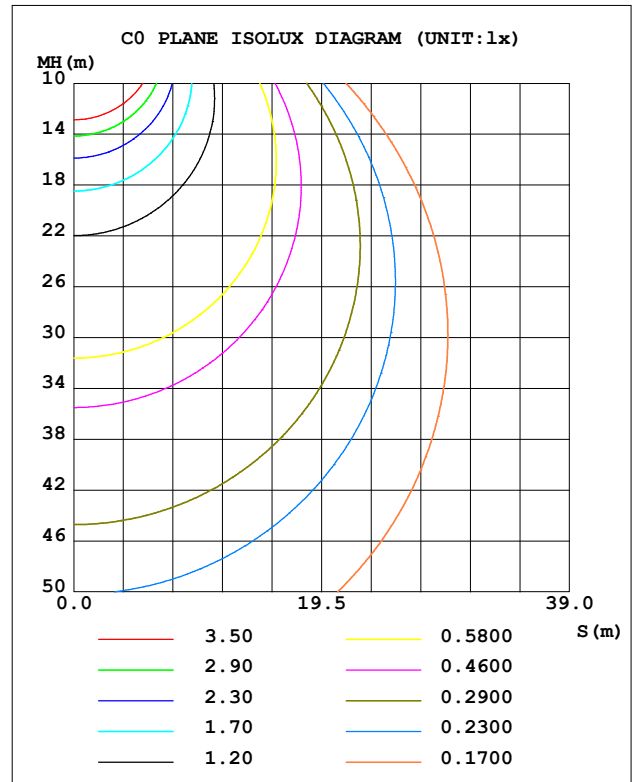
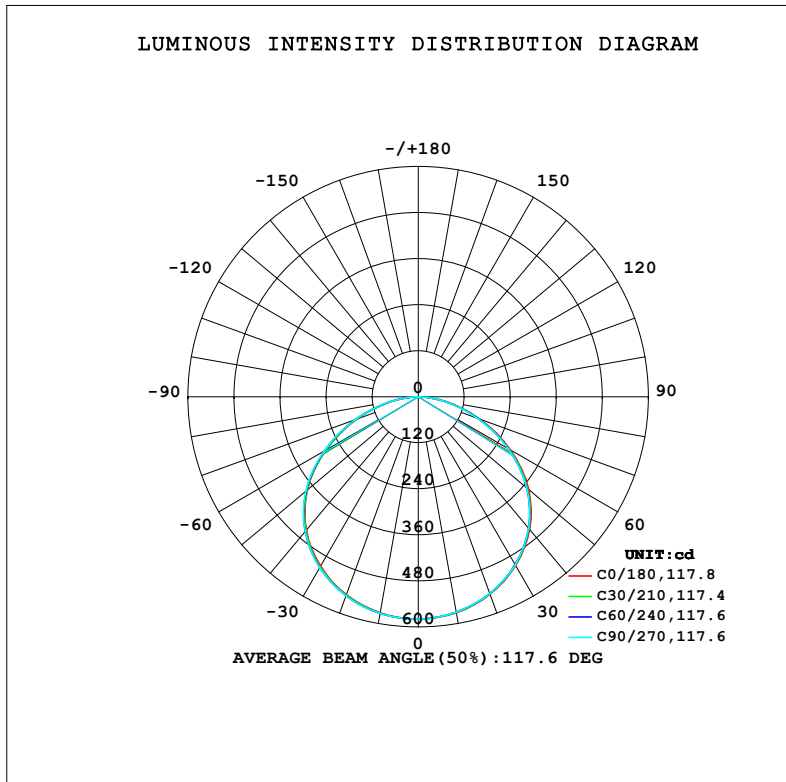


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 99XLED621	TYPE: 99XLED621	WEIGHT: 1
SPEC.:	DIM.: F295	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F250	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99XLED621	I _{max} (cd)	579.3	S/MH (C0/180)	1.31
NOMINAL POWER (W)	24	LOR (%)	97.5	S/MH (C90/270)	1.32
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	1755.4	η UP, DN (C0-180)	0.0, 48.2
NOMINAL FLUX (lm)	1800	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)	230	η down (%)	97.5	CIBSE SHR MAX	1.50



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators:
Test Date: 09 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	571.2	570.2	570.3	570.8	571.9	572.8	573.3	572.6	0- 10	54.93	54.93	3.13, 3.05
20	547.6	545.9	545.7	546.6	548.9	550.9	551.8	550.3	10- 20	158.8	213.7	12.2, 11.9
30	508.1	505.5	505.2	506.4	509.9	512.9	514.3	511.9	20- 30	244.8	458.5	26.1, 25.5
40	451.6	447.9	447.4	448.9	453.7	457.1	458.9	456.2	30- 40	302.4	760.9	43.3, 42.3
50	375.4	370.2	369.0	370.6	377.0	379.8	382.4	379.8	40- 50	321.3	1082	61.7, 60.1
60	278.1	272.4	270.8	271.5	278.0	280.5	283.7	281.7	50- 60	293.1	1375	78.4, 76.4
70	170.7	167.5	165.7	165.4	169.8	173.3	175.9	174.1	60- 70	221.3	1597	91.8, 8.7
80	71.91	69.89	66.52	66.76	69.90	71.82	74.43	71.87	70- 80	125.8	1722	98.1, 95.7
90	1.317	1.076	1.555	1.078	0.9376	0.9482	0.9340	0.9187	80- 90	32.95	1755	100, 97.5
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): 922.01 lm

%lum = 52.5%

%lamp = 51.2%

Conical surface Flux(130deg): 1497 lm

%lum = 85.3%

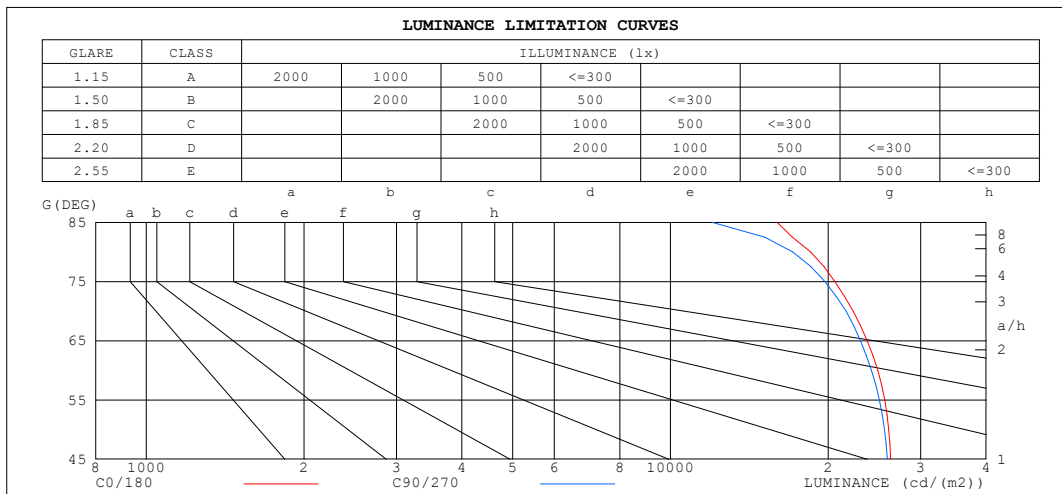
%lamp = 83.2%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:09 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: 99XLED621	TYPE: 99XLED621	WEIGHT: 1
SPEC.:	DIM.: F295	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F250	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	15993	12030
80	18498	17093
75	20597	19704
70	22292	21622
65	23713	23032
60	24841	24167
55	25642	25040
50	26088	25614
45	26289	25932

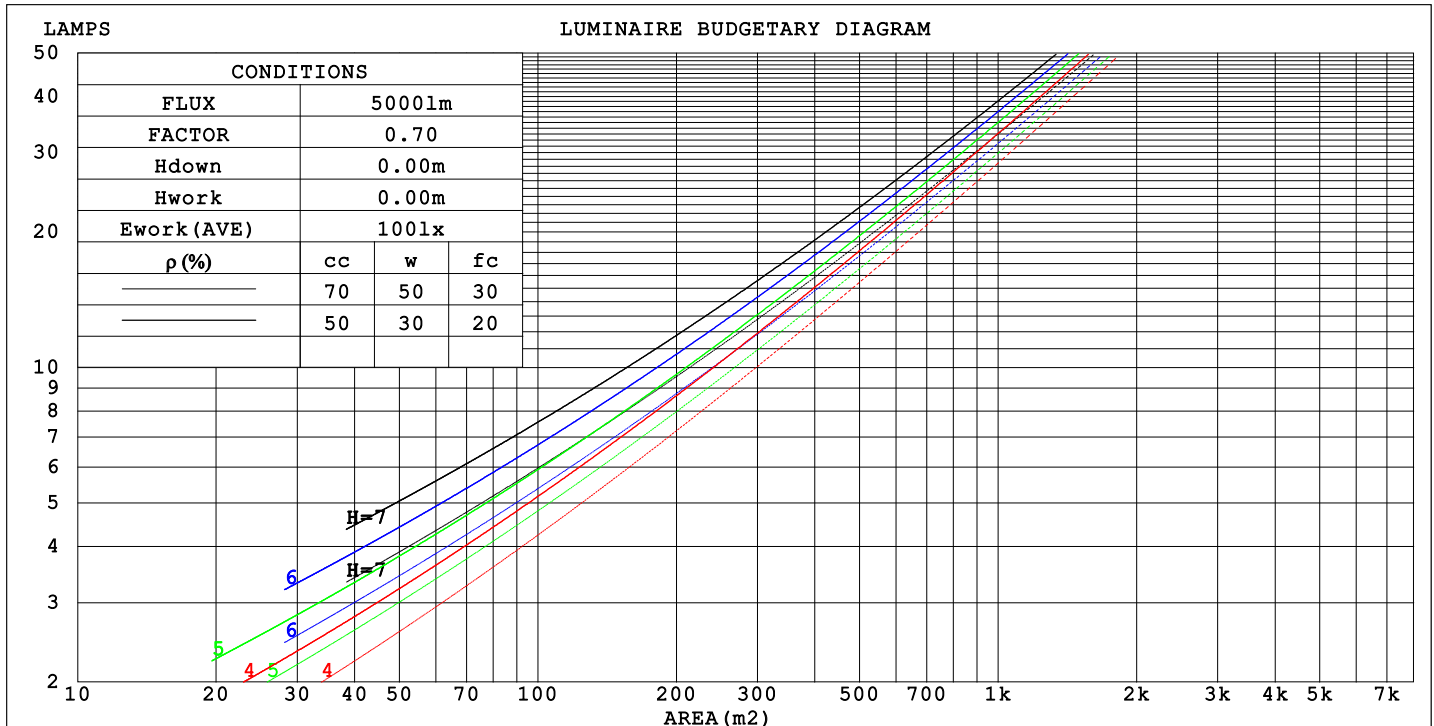
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators:
Test Date: 09 August 2022

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: 99XLED621	TYPE: 99XLED621	WEIGHT: 1
SPEC.:	DIM.: F295	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F250	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:09 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: 99XLED621	TYPE: 99XLED621	WEIGHT: 1
SPEC.:	DIM.: F295	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F250	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	.305	.173	.055	.298	.170	.054	.285	.164	.052	.273	.158	.051	.262	.152	.049	
2.0	.287	.157	.048	.281	.155	.048	.270	.150	.047	.259	.145	.046	.249	.141	.044	
3.0	.266	.142	.042	.260	.140	.042	.250	.136	.041	.241	.132	.041	.232	.129	.040	
4.0	.245	.127	.037	.241	.126	.037	.232	.123	.037	.223	.120	.036	.215	.117	.036	
5.0	.227	.116	.033	.223	.114	.033	.215	.112	.033	.207	.109	.033	.200	.107	.032	
6.0	.210	.105	.030	.206	.104	.030	.199	.102	.030	.193	.100	.029	.186	.098	.029	
7.0	.196	.097	.027	.192	.096	.027	.186	.094	.027	.180	.092	.027	.174	.091	.027	
8.0	.183	.089	.025	.180	.088	.025	.174	.087	.025	.169	.085	.025	.164	.084	.024	
9.0	.171	.083	.023	.168	.082	.023	.163	.081	.023	.158	.079	.023	.154	.078	.023	
10.0	.161	.077	.021	.158	.076	.021	.154	.075	.021	.149	.074	.021	.145	.073	.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	.186	.186	.186	.159	.159	.159	.108	.108	.108	.062	.062	.062	.020	.020	.020	
1.0	.176	.152	.131	.151	.131	.113	.103	.090	.078	.059	.052	.045	.019	.017	.015	
2.0	.168	.129	.095	.144	.111	.082	.099	.077	.057	.057	.045	.034	.018	.014	.011	
3.0	.161	.111	.072	.138	.096	.063	.095	.067	.044	.055	.039	.026	.018	.013	.008	
4.0	.154	.099	.057	.132	.085	.049	.091	.059	.035	.052	.035	.020	.017	.011	.007	
5.0	.146	.088	.046	.126	.076	.040	.087	.053	.028	.050	.031	.017	.016	.010	.005	
6.0	.139	.080	.038	.120	.070	.033	.083	.049	.023	.048	.029	.014	.015	.009	.005	
7.0	.133	.074	.032	.114	.064	.028	.079	.045	.020	.046	.026	.012	.015	.009	.004	
8.0	.126	.068	.028	.109	.059	.024	.075	.041	.017	.044	.024	.010	.014	.008	.003	
9.0	.120	.063	.024	.104	.055	.021	.072	.039	.015	.042	.023	.009	.014	.007	.003	
10.0	.115	.059	.022	.099	.051	.019	.069	.036	.013	.040	.021	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:09 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: 99XLED621					TYPE: 99XLED621			WEIGHT: 1			
SPEC.:					DIM.: F295			SERIAL No.: 0			
MFR.: Elmark Industries JSC					SUR.: circle F250			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	22.1	23.7	22.4	23.9	24.1	22.0	23.6	22.3	23.8	24.0
	3H	23.6	25.0	23.9	25.3	25.5	23.5	24.9	23.8	25.2	25.4
	4H	24.2	25.6	24.5	25.8	26.1	24.1	25.4	24.4	25.7	25.9
	6H	24.6	25.9	25.0	26.2	26.5	24.4	25.7	24.8	26.0	26.3
	8H	24.8	26.0	25.1	26.3	26.6	24.5	25.8	24.9	26.1	26.4
	12H	24.8	26.0	25.2	26.3	26.6	24.6	25.8	24.9	26.1	26.4
4H	2H	22.7	24.1	23.0	24.3	24.6	22.6	24.0	23.0	24.2	24.5
	3H	24.4	25.6	24.7	25.9	26.2	24.3	25.5	24.6	25.8	26.1
	4H	25.1	26.2	25.5	26.5	26.8	25.0	26.1	25.4	26.4	26.7
	6H	25.7	26.6	26.1	27.0	27.3	25.5	26.4	25.9	26.8	27.2
	8H	25.8	26.7	26.3	27.1	27.5	25.6	26.5	26.0	26.9	27.3
	12H	26.0	26.8	26.4	27.2	27.6	25.7	26.5	26.1	26.9	27.3
8H	4H	25.3	26.2	25.8	26.6	27.0	25.2	26.1	25.7	26.5	26.9
	6H	26.0	26.8	26.5	27.2	27.6	25.9	26.6	26.3	27.0	27.5
	8H	26.3	27.0	26.8	27.4	27.9	26.1	26.8	26.6	27.2	27.7
	12H	26.5	27.1	27.0	27.5	28.0	26.2	26.8	26.7	27.2	27.7
12H	4H	25.4	26.2	25.8	26.6	27.0	25.3	26.1	25.7	26.5	26.9
	6H	26.1	26.8	26.6	27.2	27.6	25.9	26.6	26.4	27.0	27.5
	8H	26.4	27.0	26.9	27.4	27.9	26.2	26.8	26.7	27.2	27.7
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, 1800 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.0)
Area: 0.0224041 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:09 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: 99XLED621	TYPE: 99XLED621	WEIGHT: 1
SPEC.:	DIM.: F295	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F250	Shielding Angle:

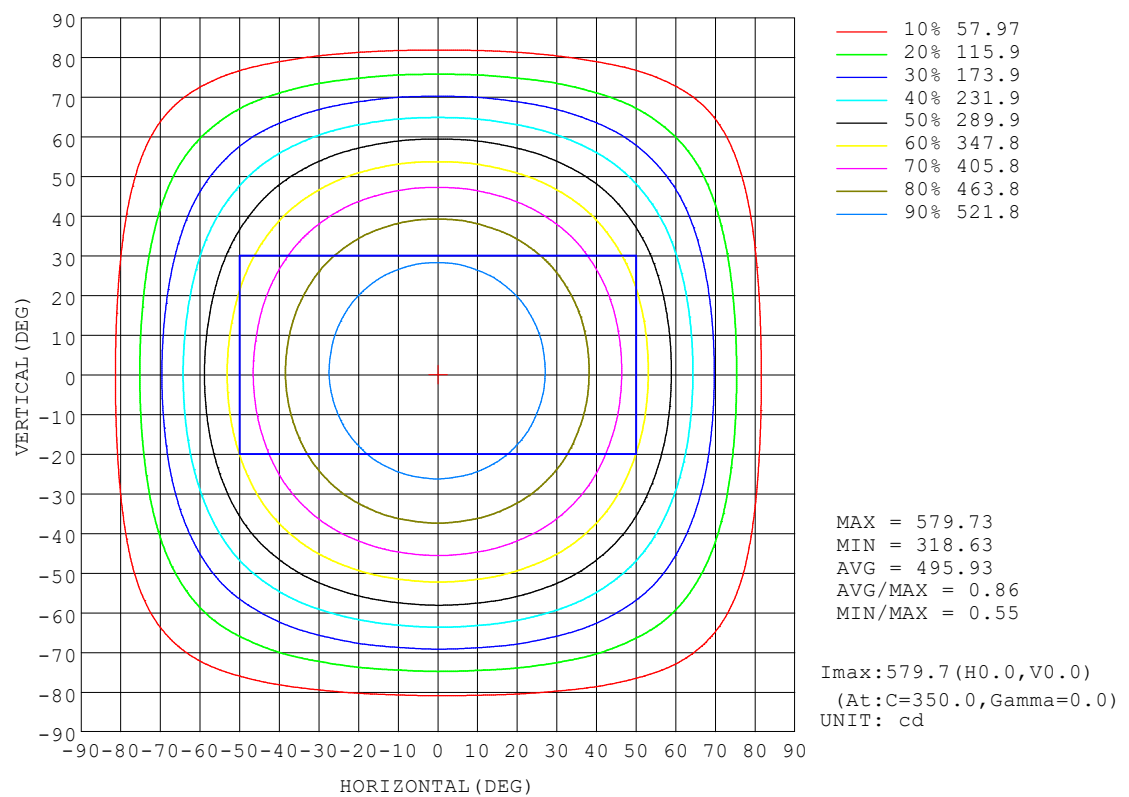
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	55	44	37	55	44	37	53	43	37	30
0.80	65	54	46	64	53	46	62	52	46	39
1.00	74	63	55	72	62	55	70	63	55	47
1.25	81	70	63	79	69	63	76	68	62	55
1.50	85	76	69	84	75	68	81	73	67	60
2.00	92	84	77	90	83	77	87	80	75	68
2.50	96	88	82	94	87	82	90	85	80	72
3.00	99	93	87	97	91	86	93	88	84	76
4.00	103	98	93	101	96	92	97	93	89	81
5.00	106	101	97	103	99	96	99	96	93	84
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: 09 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: 99XLED621	TYPE: 99XLED621	WEIGHT: 1
SPEC.:	DIM.: F295	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F250	Shielding Angle:

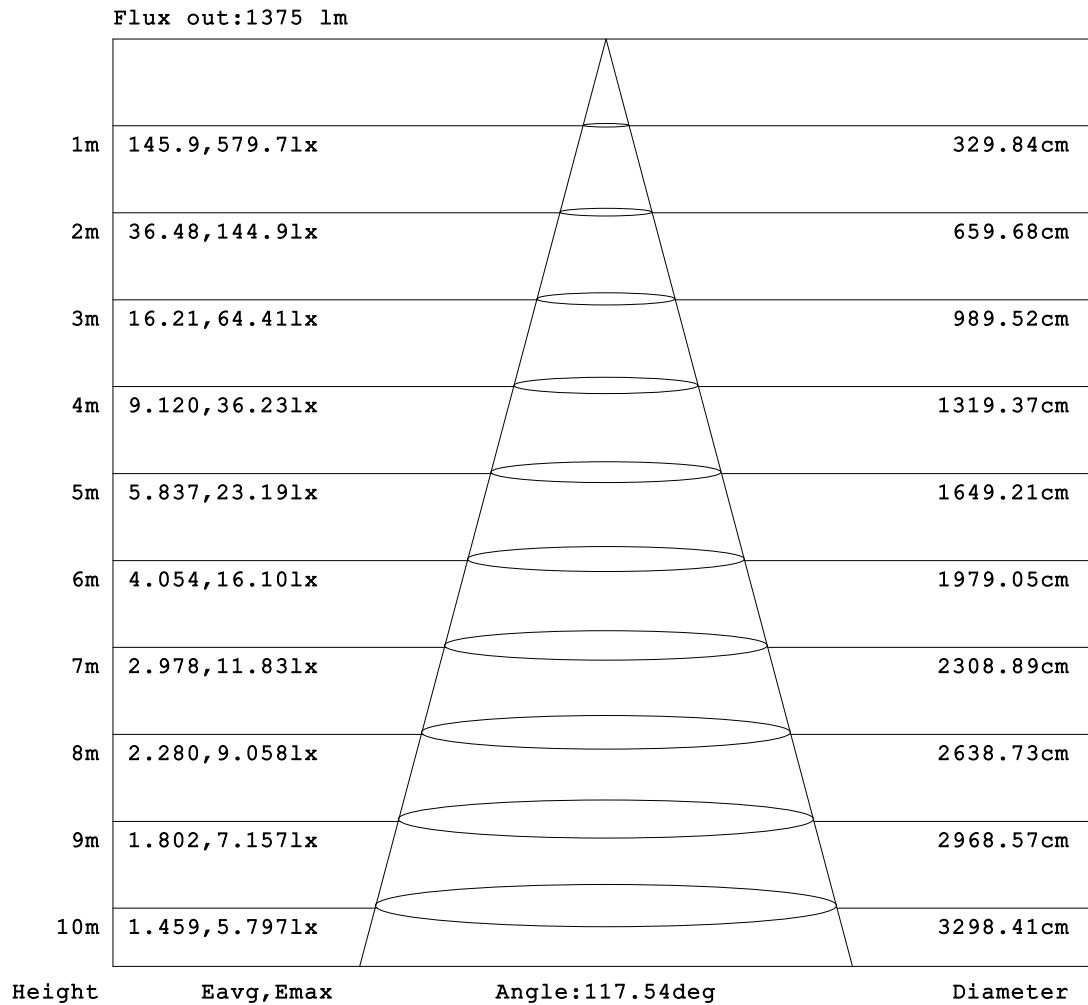


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators:
Test Date: 09 August 2022

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: 99XLED621	TYPE: 99XLED621	WEIGHT: 1
SPEC.:	DIM.: F295	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F250	Shielding Angle:



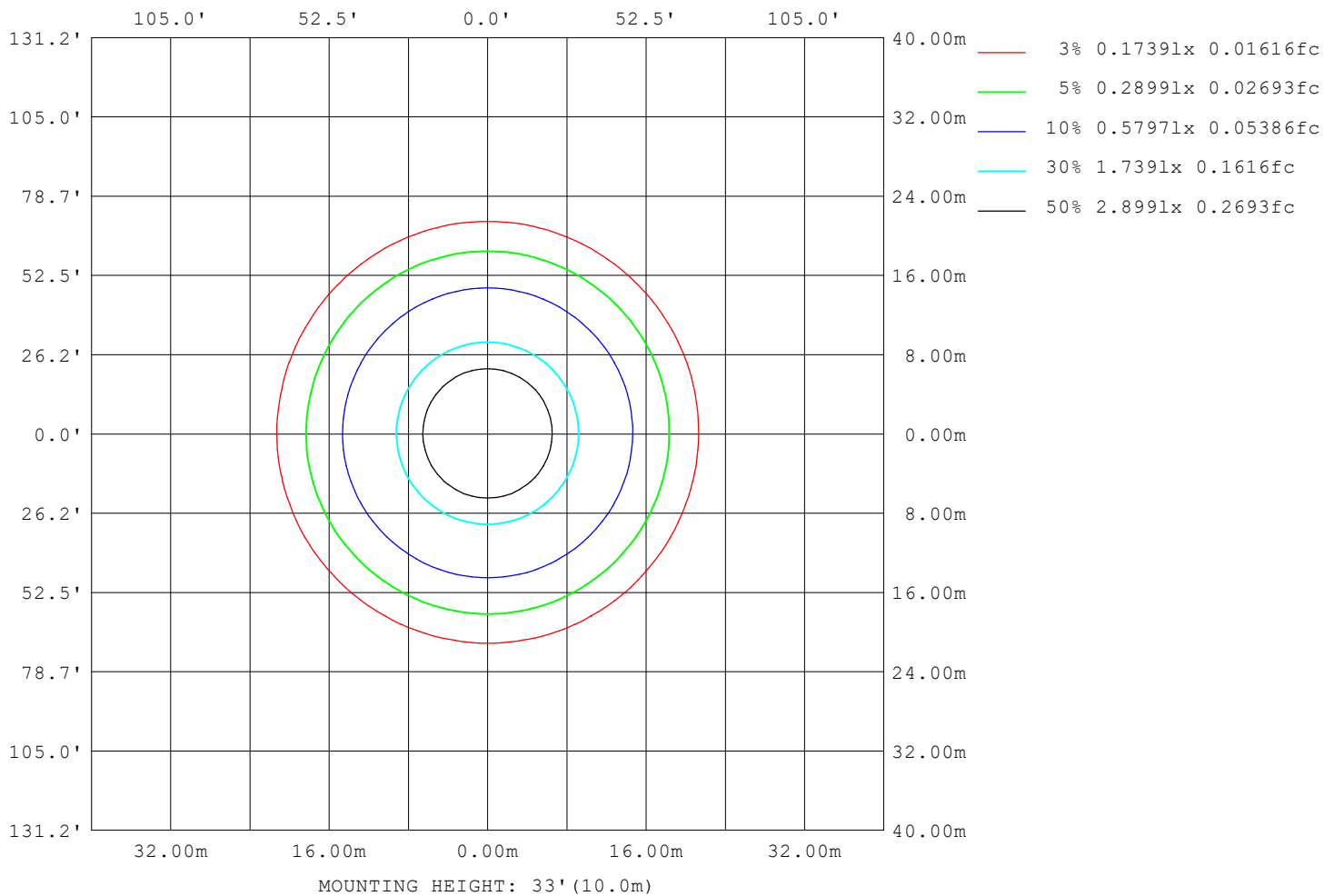
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators:
 Test Date: 09 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: 99XLED621	TYPE: 99XLED621	WEIGHT: 1
SPEC.:	DIM.: F295	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F250	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators:
Test Date: 09 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: 99XLED621	TYPE: 99XLED621	WEIGHT: 1
SPEC.:	DIM.: F295	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F250	Shielding Angle:

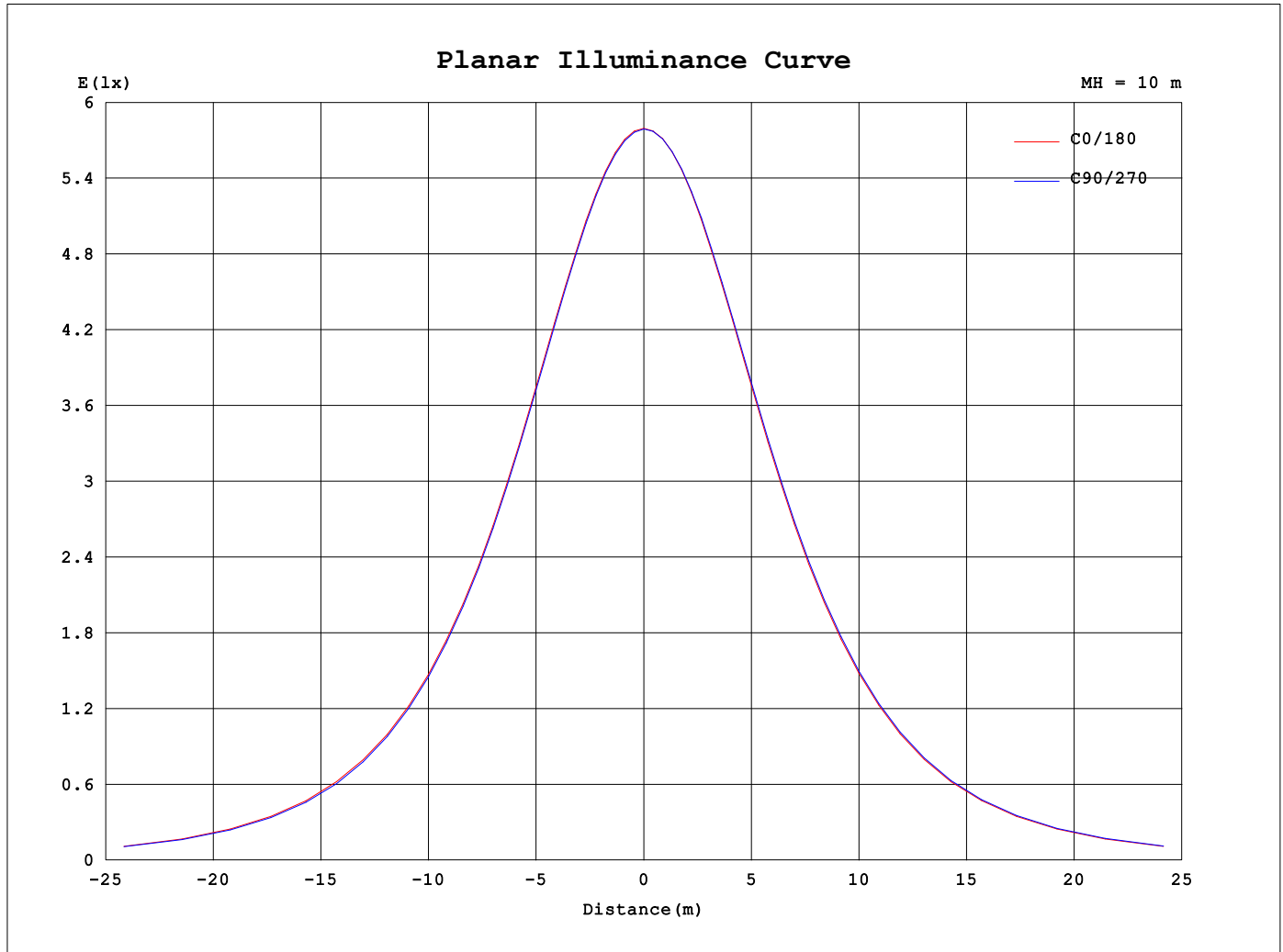
AvgL	cd/m2
L_0~180 (65) av	23665
L_0~180 (75) av	20452
L_0~180 (85) av	15389
L_90~270 (65) av	23674
L_90~270 (75) av	20478
L_90~270 (85) av	13773
L_45 (65) av	23558
L_45 (75) av	20449
L_45 (85) av	13641

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:09 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: 09 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:

```