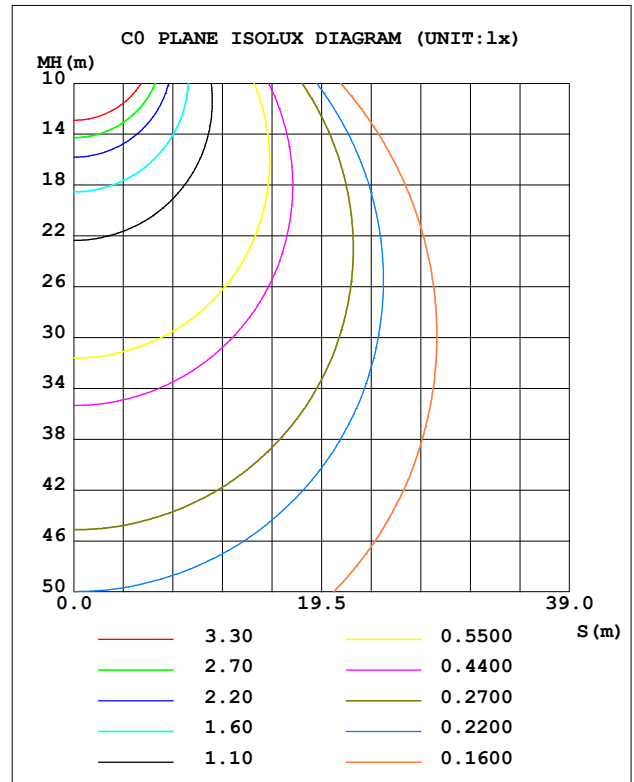
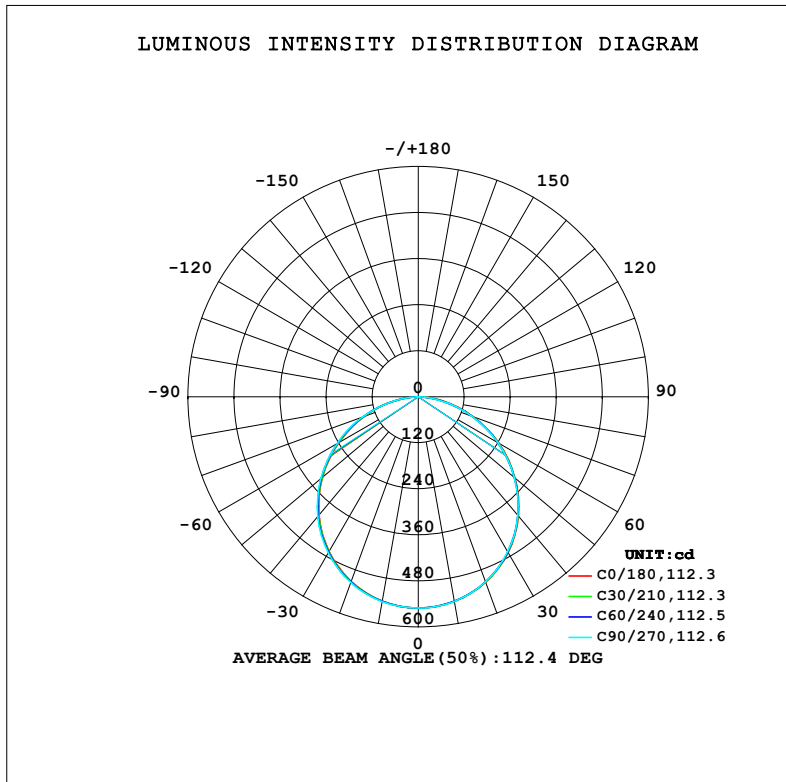


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 99LED916IP65	TYPE: 99LED916IP65	WEIGHT: 1
SPEC.:	DIM.: F 220	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99LED916IP65	Imax (cd)	551.4	S/MH (C0/180)	1.26
NOMINAL POWER (W)	16	LOR (%)	121.3	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	1576.7	η UP, DN (C0-180)	0.0, 60.4
NOMINAL FLUX (lm)	1300	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 60.9
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	121.3	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	541.6	541.7	541.6	541.6	540.8	541.5	542.4	542.5	0- 10	52.13	52.13	3.31,4.01
20	514.2	513.8	513.1	512.9	512.1	513.7	515.0	515.8	10- 20	149.6	201.7	12.8,15.5
30	468.5	467.6	466.6	465.8	465.5	467.8	469.9	469.8	20- 30	227.1	428.8	27.2,33
40	405.9	404.6	404.1	402.6	402.6	405.3	407.8	408.0	30- 40	274.1	702.9	44.6,54.1
50	329.3	327.8	326.8	325.6	325.9	328.9	332.0	331.5	40- 50	283.8	986.7	62.6,75.9
60	242.7	241.0	239.8	238.6	239.4	242.6	245.3	244.7	50- 60	255.4	1242	78.8,95.6
70	152.0	150.6	149.2	148.3	149.5	152.8	154.4	154.0	60- 70	194.5	1437	91.1,111
80	65.37	62.58	58.17	60.47	62.98	64.40	63.65	65.03	70- 80	112.4	1549	98.2,119
90	0.8756	0.8842	0.8660	0.8967	0.7692	0.7820	0.7598	0.7756	80- 90	27.61	1577	100,121
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): 846 lm

%lum = 53.7%

%lamp = 65.1%

Conical surface Flux(130deg): 1348.7 lm

%lum = 85.5%

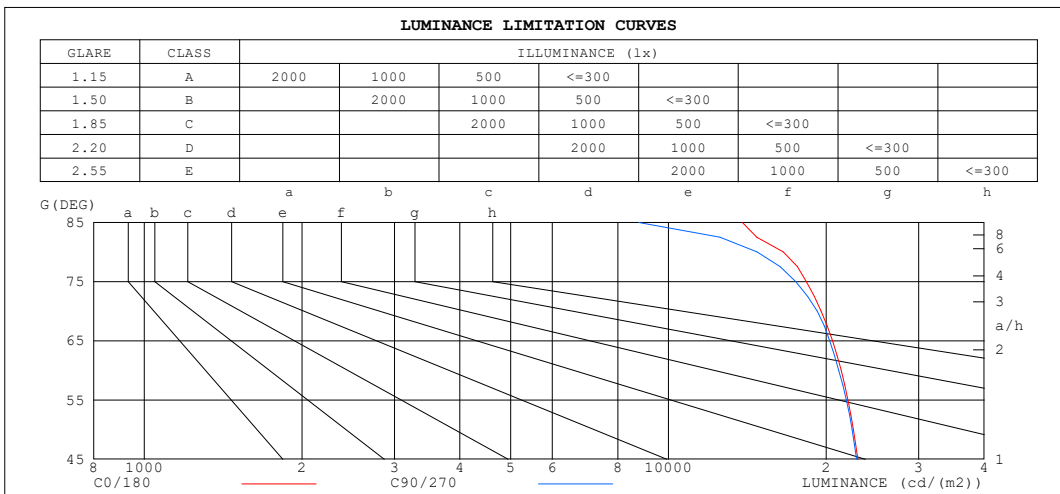
%lamp = 103.7%

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: 99LED916IP65	TYPE: 99LED916IP65	WEIGHT: 1
SPEC.:	DIM.: F 220	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	13827	8776
80	16558	14758
75	18329	17493
70	19552	19213
65	20546	20290
60	21351	21128
55	22007	21829
50	22533	22396
45	22971	22858

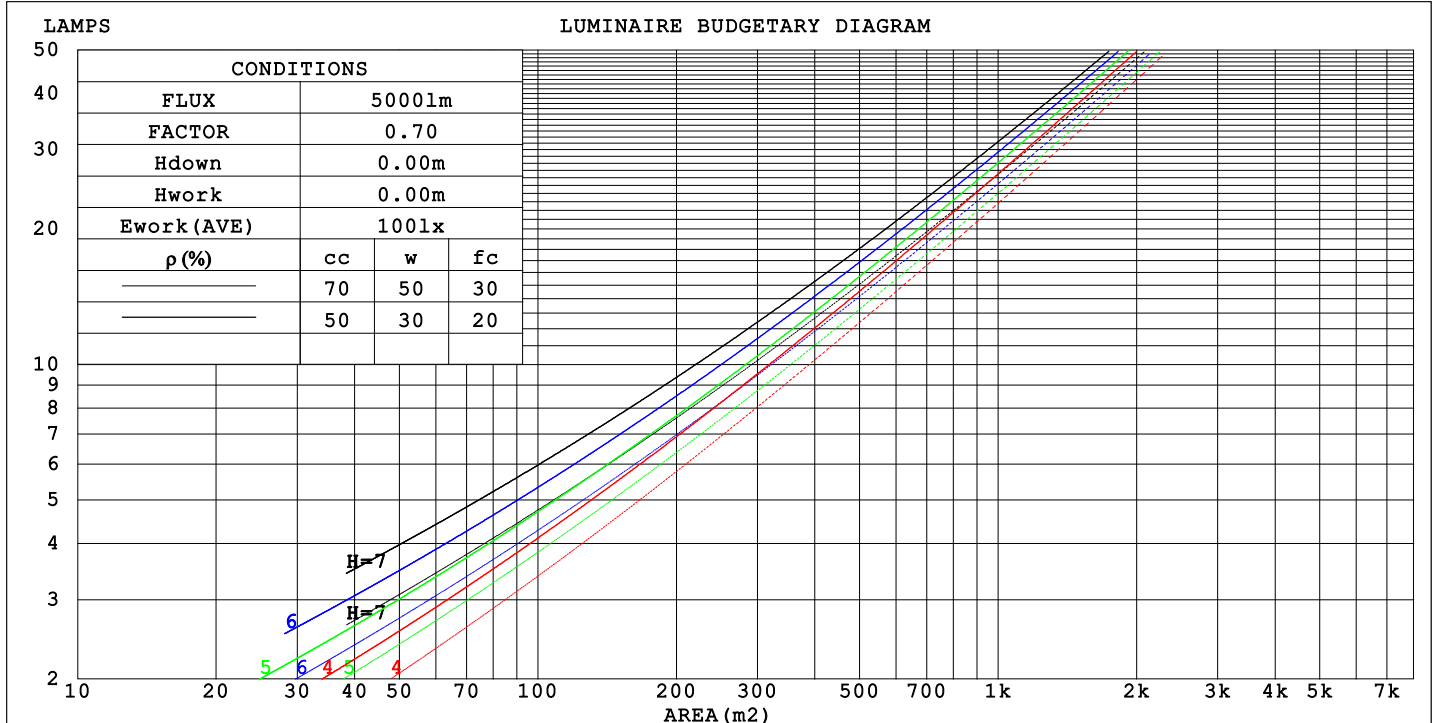
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 12 August 2022

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: 99LED916IP65	TYPE: 99LED916IP65	WEIGHT: 1
SPEC.:	DIM.: F 220	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	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: 99LED916IP65	TYPE: 99LED916IP65	WEIGHT: 1
SPEC.:	DIM.: F 220	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	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	.375	.213	.068	.366	.209	.066	.350	.201	.064	.335	.193	.062	.322	.187	.060	
2.0	.354	.194	.059	.346	.191	.059	.332	.185	.057	.319	.179	.056	.307	.173	.055	
3.0	.328	.174	.052	.321	.172	.052	.308	.167	.051	.297	.163	.050	.286	.158	.049	
4.0	.302	.157	.046	.296	.155	.046	.285	.151	.045	.275	.148	.045	.265	.144	.044	
5.0	.280	.142	.041	.274	.141	.041	.264	.138	.041	.255	.135	.040	.247	.132	.040	
6.0	.259	.130	.037	.255	.129	.037	.246	.126	.037	.238	.123	.036	.230	.121	.036	
7.0	.241	.119	.034	.237	.118	.034	.229	.116	.033	.222	.114	.033	.215	.112	.033	
8.0	.225	.110	.031	.222	.109	.031	.215	.107	.031	.208	.105	.030	.202	.104	.030	
9.0	.211	.102	.029	.208	.101	.028	.202	.100	.028	.196	.098	.028	.190	.096	.028	
10.0	.199	.095	.026	.196	.094	.026	.190	.093	.026	.184	.092	.026	.179	.090	.026	

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	.231	.231	.231	.197	.197	.197	.135	.135	.135	.077	.077	.077	.025	.025	.025	
1.0	.219	.189	.163	.187	.163	.140	.128	.112	.097	.074	.065	.056	.024	.021	.018	
2.0	.209	.160	.119	.179	.138	.103	.123	.095	.072	.071	.055	.042	.023	.018	.014	
3.0	.199	.139	.090	.171	.120	.078	.117	.083	.055	.068	.049	.032	.022	.016	.011	
4.0	.190	.122	.071	.163	.106	.061	.112	.074	.043	.065	.043	.026	.021	.014	.008	
5.0	.181	.110	.057	.156	.095	.050	.107	.066	.035	.062	.039	.021	.020	.013	.007	
6.0	.173	.100	.047	.148	.086	.041	.102	.060	.029	.059	.036	.017	.019	.012	.006	
7.0	.164	.091	.040	.141	.079	.035	.098	.056	.025	.057	.033	.015	.018	.011	.005	
8.0	.156	.084	.035	.135	.073	.030	.093	.051	.022	.054	.030	.013	.018	.010	.004	
9.0	.149	.078	.031	.128	.068	.027	.089	.048	.019	.052	.028	.011	.017	.009	.004	
10.0	.142	.073	.027	.123	.064	.024	.085	.045	.017	.050	.026	.010	.016	.009	.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: 99LED916IP65					TYPE: 99LED916IP65			WEIGHT: 1			
SPEC.:					DIM.: F 220			SERIAL No.: 0			
MFR.: Elmark Industries JSC					SUR.: round			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	22.7	24.2	23.0	24.4	24.6	22.7	24.2	22.9	24.4	24.6	
	3H	24.2	25.6	24.5	25.9	26.1	24.2	25.6	24.5	25.8	26.0
	4H	24.8	26.2	25.2	26.4	26.7	24.7	26.1	25.1	26.3	26.6
	6H	25.3	26.6	25.6	26.8	27.1	25.1	26.4	25.5	26.7	26.9
	8H	25.4	26.6	25.8	26.9	27.2	25.2	26.4	25.6	26.7	27.0
12H	25.5	26.7	25.9	27.0	27.3	25.2	26.4	25.6	26.7	27.0	
4H	2H	23.3	24.6	23.6	24.9	25.2	23.3	24.6	23.6	24.9	25.1
	3H	25.0	26.2	25.4	26.5	26.8	25.0	26.1	25.3	26.4	26.7
	4H	25.8	26.8	26.1	27.1	27.5	25.7	26.7	26.0	27.1	27.4
	6H	26.3	27.3	26.7	27.6	28.0	26.2	27.1	26.6	27.5	27.8
	8H	26.5	27.4	26.9	27.8	28.2	26.3	27.2	26.7	27.6	27.9
12H	26.7	27.5	27.1	27.9	28.3	26.3	27.2	26.8	27.5	27.9	
8H	4H	26.0	26.9	26.4	27.3	27.7	25.9	26.8	26.3	27.2	27.6
	6H	26.7	27.5	27.2	27.9	28.3	26.6	27.3	27.0	27.7	28.1
	8H	27.0	27.7	27.5	28.1	28.6	26.8	27.4	27.2	27.9	28.3
	12H	27.2	27.8	27.7	28.2	28.7	26.9	27.4	27.3	27.9	28.3
12H	4H	26.0	26.8	26.5	27.2	27.6	25.9	26.8	26.4	27.1	27.6
	6H	26.8	27.4	27.3	27.9	28.3	26.6	27.3	27.1	27.7	28.2
	8H	27.1	27.7	27.6	28.1	28.6	26.9	27.4	27.3	27.9	28.3
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, 1300 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.9)
Area: 0.02269 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: 99LED916IP65	TYPE: 99LED916IP65	WEIGHT: 1
SPEC.:	DIM.: F 220	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:

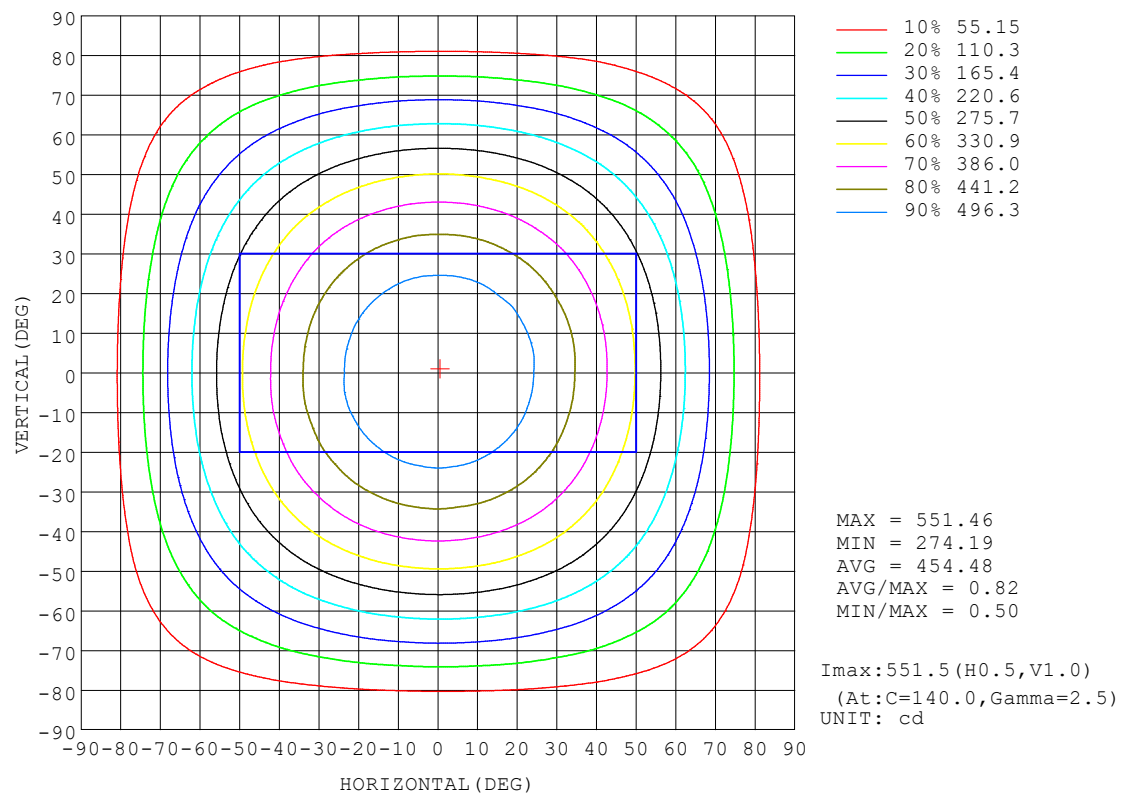
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	70	56	47	69	55	47	67	55	47	39
0.80	82	68	59	81	67	59	79	66	58	50
1.00	92	79	70	91	78	69	88	80	69	60
1.25	101	88	79	99	87	79	96	85	78	69
1.50	107	95	86	105	94	86	101	92	84	75
2.00	115	105	97	113	103	96	109	101	94	85
2.50	120	110	103	117	109	102	113	106	100	90
3.00	124	116	109	121	114	108	116	110	105	95
4.00	129	122	116	126	120	115	121	116	111	101
5.00	132	126	121	129	124	119	123	119	115	104
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: 99LED916IP65	TYPE: 99LED916IP65	WEIGHT: 1
SPEC.:	DIM.: F 220	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:

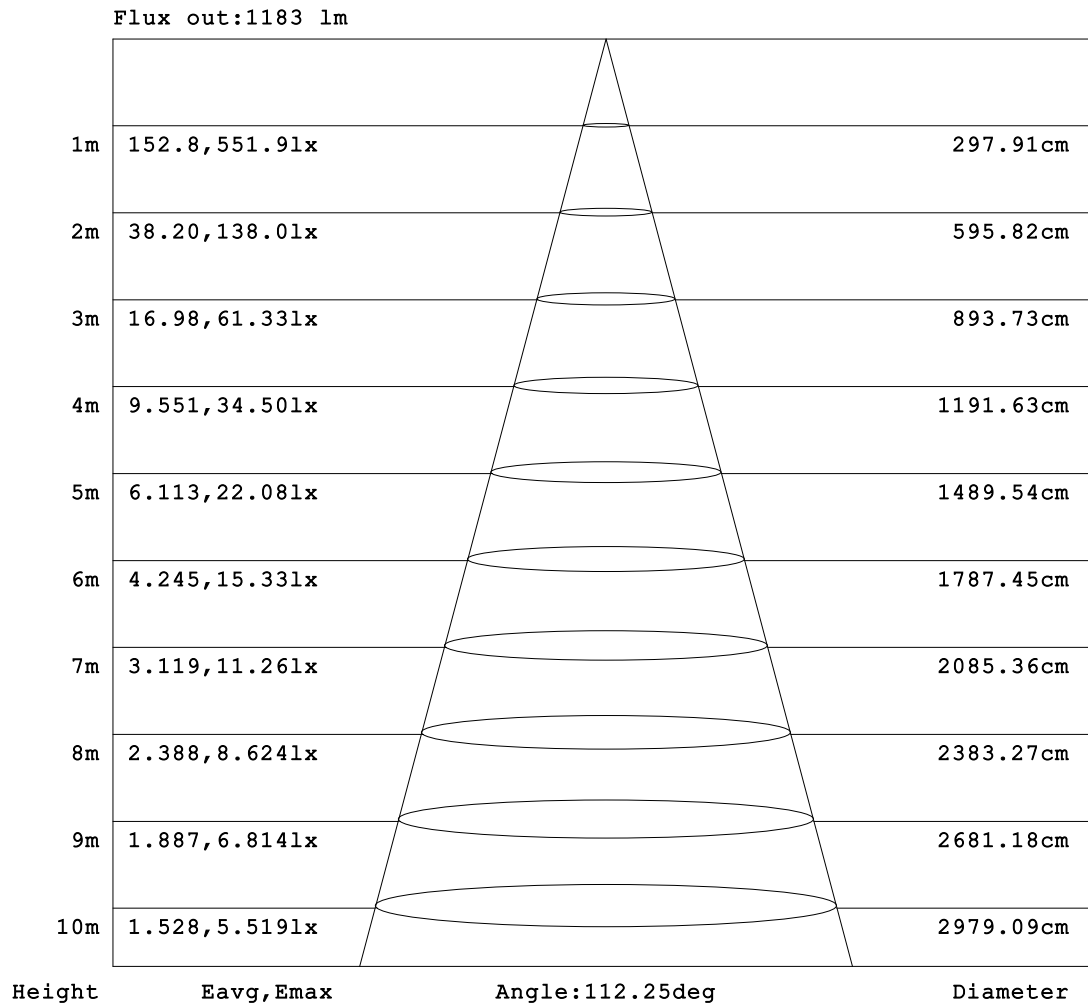


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:12 August 2022

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: 99LED916IP65	TYPE: 99LED916IP65	WEIGHT: 1
SPEC.:	DIM.: F 220	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:



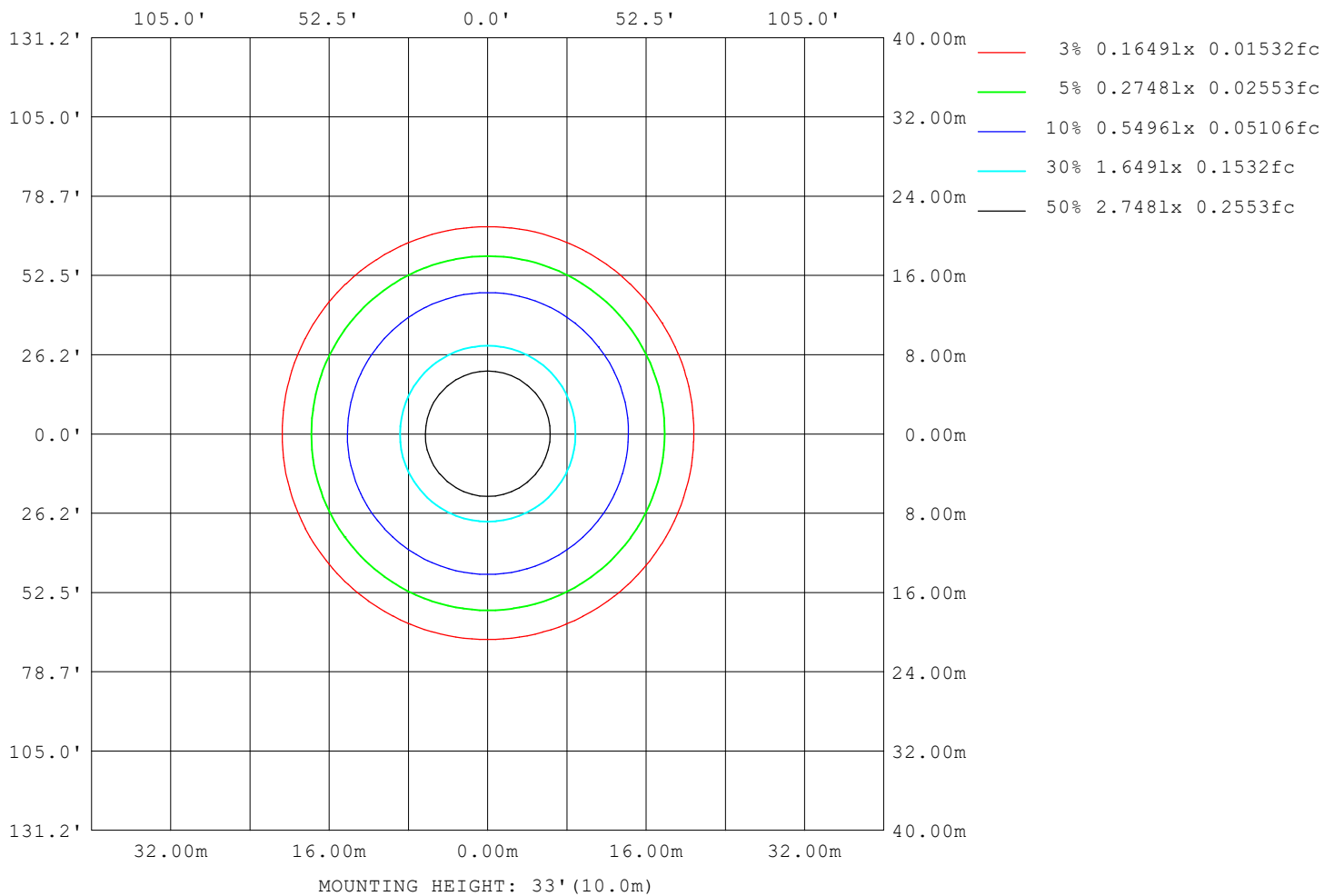
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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: 99LED916IP65	TYPE: 99LED916IP65	WEIGHT: 1
SPEC.:	DIM.: F 220	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	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: 99LED916IP65	TYPE: 99LED916IP65	WEIGHT: 1
SPEC.:	DIM.: F 220	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: round	Shielding Angle:

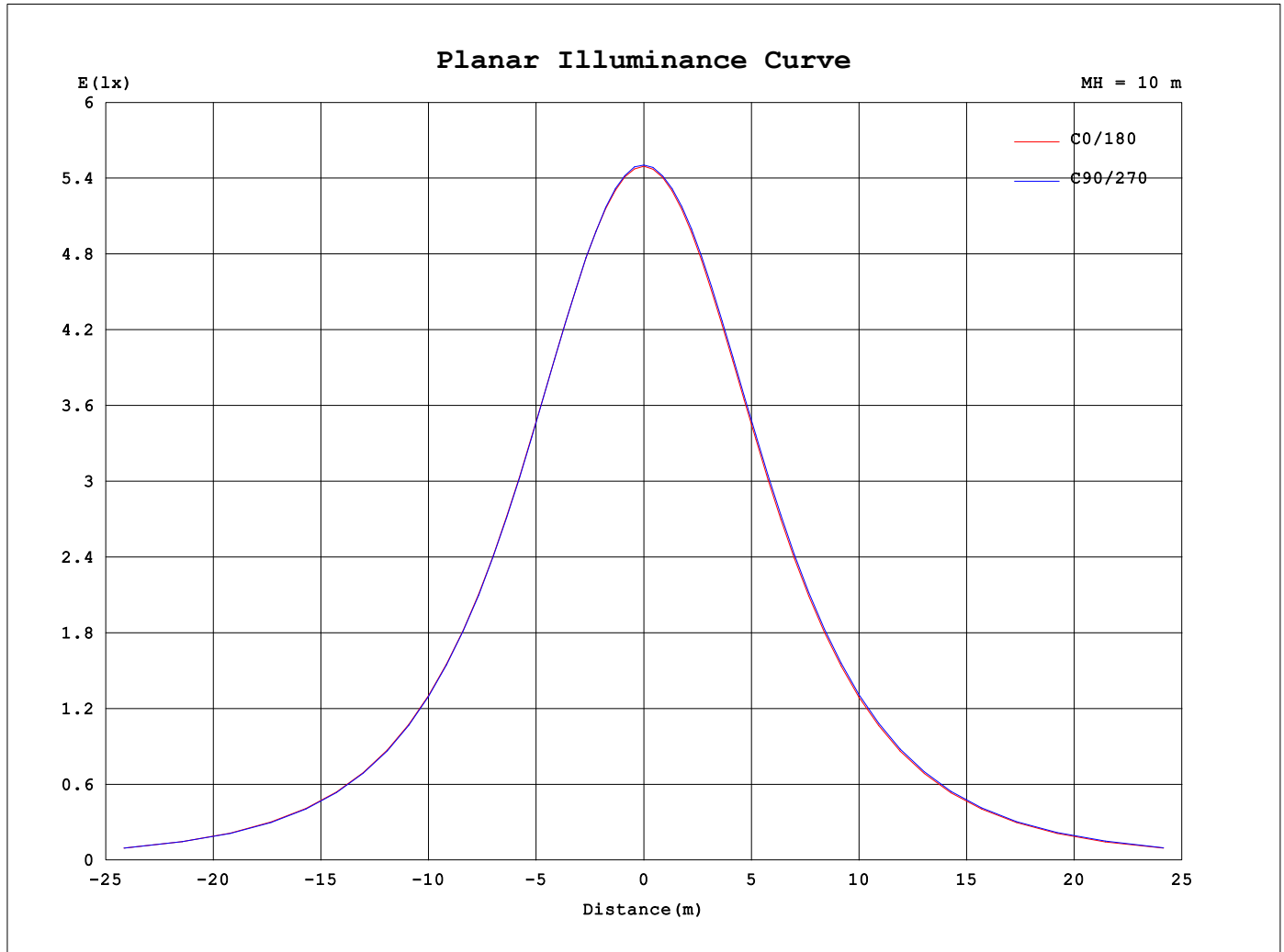
AvgL	cd/m2
L_0~180 (65) av	20429
L_0~180 (75) av	18167
L_0~180 (85) av	13077
L_90~270 (65) av	20601
L_90~270 (75) av	17968
L_90~270 (85) av	10009
L_45 (65) av	20495
L_45 (75) av	18147
L_45 (85) av	11521

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:

```

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:

```