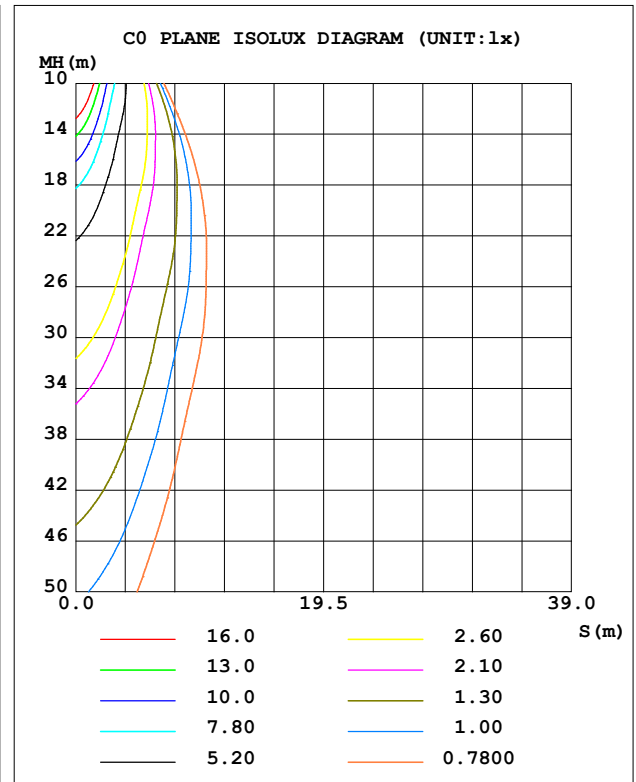
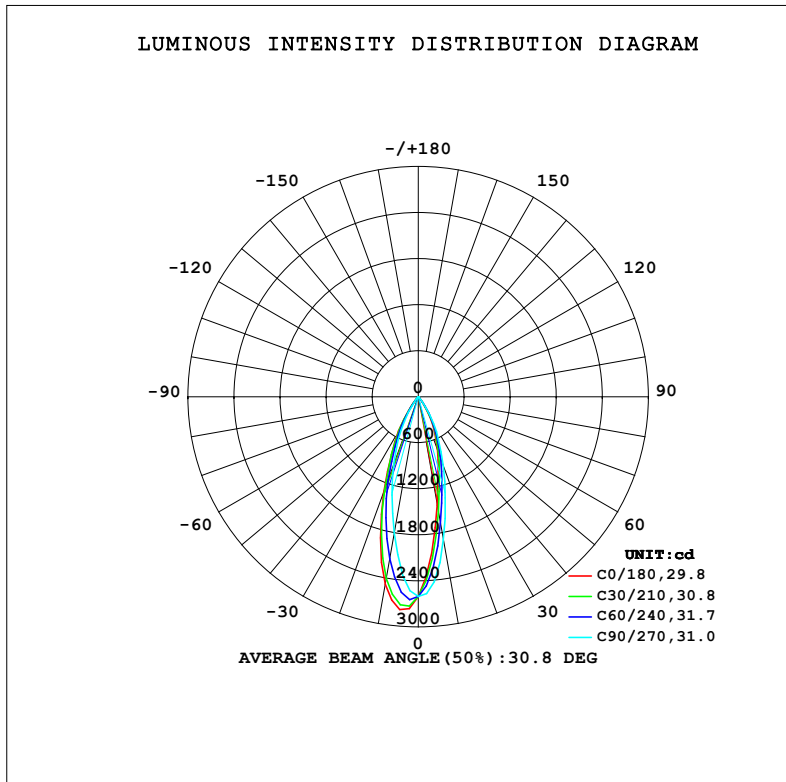


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 92EL052030/WHBK	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 415 x 45 x 35	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	92EL052030/WHBK	I <sub>max</sub> (cd)	2784	S/MH (C0/180)	0.65
NOMINAL POWER (W)	15	LOR (%)	108.4	S/MH (C90/270)	0.50
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	1051.7	η UP, DN (C0-180)	0.0, 54.1
NOMINAL FLUX (lm)	970	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 54.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	230	η down (%)	108.4	CIBSE SHR MAX	0.55



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature: 25.3°C  
Operators:  
Test Date: 08 December 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:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	1436	1589	1892	2271	2480	2293	1809	1494	0- 10	212.8	212.8	20.2, 21.9
20	733.6	816.9	959.9	1194	1327	1232	944.9	775.4	10- 20	391.4	604.2	57.4, 62.3
30	311.9	351.3	405.5	484.6	516.7	467.6	365.7	317.4	20- 30	302.2	906.4	86.2, 93.4
40	47.12	54.62	59.38	71.65	73.79	60.88	46.39	45.29	30- 40	119.3	1026	97.5, 106
50	12.59	12.53	11.95	11.85	12.36	11.27	9.903	10.43	40- 50	19.01	1045	99.3, 108
60	3.928	4.089	3.563	3.148	3.075	2.697	2.165	2.546	50- 60	6.268	1051	99.9, 108
70	0.1307	0.1142	0.1169	0.1158	0.0653	0.0626	0.0870	0.0763	60- 70	0.6490	1052	100, 108
80	0.0381	0.0245	0.0109	0.0191	0.0245	0.0326	0.0435	0.0381	70- 80	0.0586	1052	100, 108
90	0.0027	0.0041	0	0.0014	0.0245	0.0258	0.0272	0.0286	80- 90	0.0218	1052	100, 108
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): 1038.3 lm

%lum = 98.7%

%lamp = 107.0%

Conical surface Flux(130deg): 1051.6 lm

%lum = 100.0%

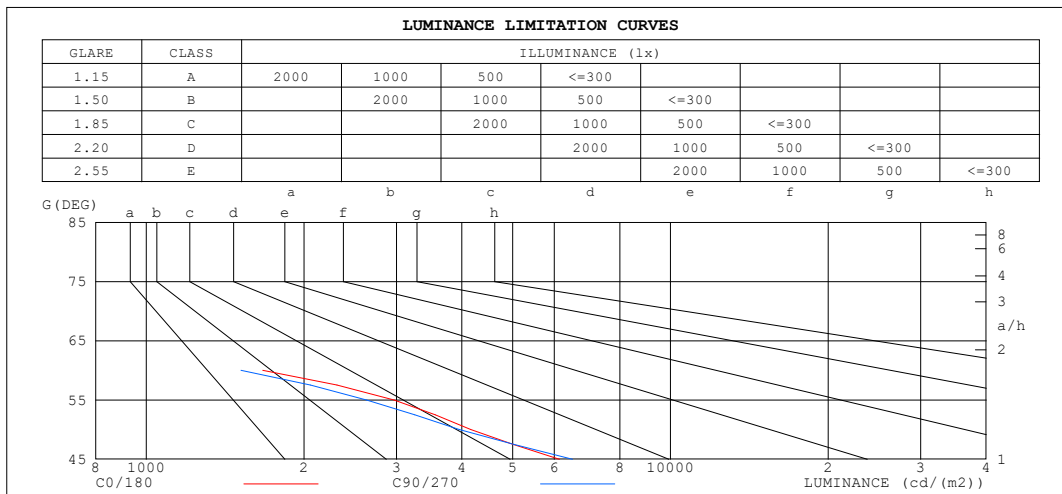
%lamp = 108.4%

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 December 2022

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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: 92EL052030/WHBK	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 415 x 45 x 35	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	40	0
80	47	13
75	63	45
70	81	73
65	128	126
60	1668	1515
55	2972	2632
50	4159	3955
45	6138	6501

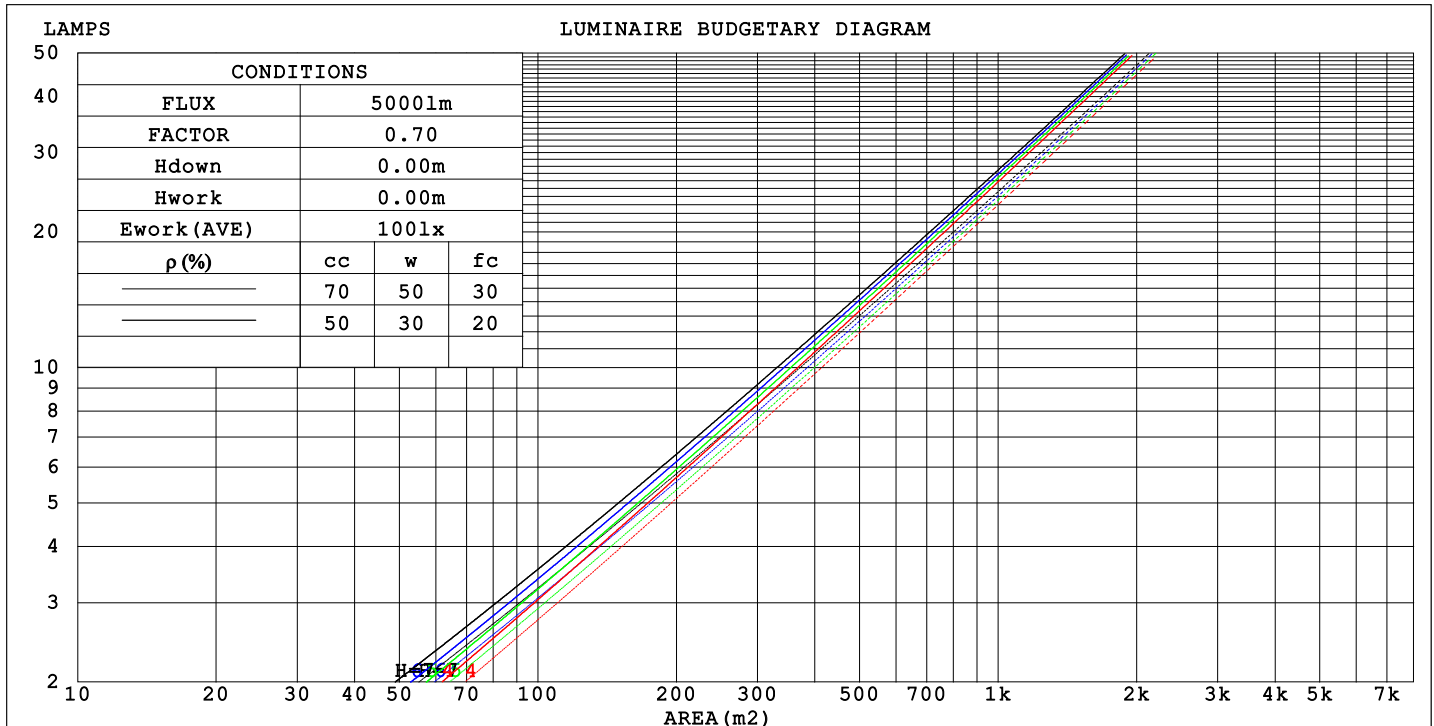
C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature: 25.3°C  
Operators:  
Test Date: 08 December 2022

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: 92EL052030/WHBK	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 415 x 45 x 35	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	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 Coefficients of Utilization(CU)															
0.0	1.29	1.29	1.29	1.26	1.26	1.26	1.20	1.20	1.20	1.15	1.15	1.15	1.11	1.11	1.11	1.08
1.0	1.21	1.19	1.17	1.19	1.17	1.15	1.15	1.13	1.11	1.11	1.09	1.08	1.07	1.06	1.05	1.03
2.0	1.14	1.11	1.07	1.12	1.09	1.06	1.09	1.06	1.04	1.06	1.04	1.02	1.03	1.01	.00	.98
3.0	1.08	1.03	.00	1.07	1.02	.99	1.04	1.00	.97	1.01	.98	.96	.99	.97	.94	.93
4.0	1.02	.97	.93	1.01	.97	.93	.99	.95	.92	.97	.94	.91	.95	.92	.90	.88
5.0	.97	.92	.88	.96	.91	.88	.95	.90	.87	.93	.89	.86	.91	.88	.85	.84
6.0	.93	.87	.83	.92	.87	.83	.90	.86	.82	.89	.85	.82	.88	.84	.81	.80
7.0	.88	.83	.79	.88	.83	.79	.87	.82	.78	.85	.81	.78	.84	.81	.78	.76
8.0	.85	.79	.75	.84	.79	.75	.83	.78	.75	.82	.78	.75	.81	.77	.74	.73
9.0	.81	.76	.72	.81	.75	.72	.80	.75	.72	.79	.74	.71	.78	.74	.71	.70
10.0	.78	.72	.69	.77	.72	.69	.76	.72	.69	.76	.71	.68	.75	.71	.68	.67



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 December 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: 92EL052030/WHBK	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 415 x 45 x 35	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	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	.170	.097	.031	.162	.093	.029	.149	.085	.027	.136	.079	.025	.125	.072	.023	
2.0	.160	.088	.027	.154	.085	.026	.143	.080	.025	.133	.074	.023	.123	.070	.022	
3.0	.152	.081	.024	.147	.078	.024	.137	.074	.023	.128	.070	.022	.120	.066	.021	
4.0	.144	.075	.022	.139	.073	.022	.131	.070	.021	.124	.066	.020	.117	.063	.019	
5.0	.137	.070	.020	.133	.068	.020	.126	.066	.019	.119	.063	.019	.113	.061	.018	
6.0	.130	.065	.019	.127	.064	.018	.121	.062	.018	.115	.060	.018	.110	.058	.017	
7.0	.124	.062	.017	.122	.061	.017	.116	.059	.017	.111	.057	.017	.106	.055	.016	
8.0	.119	.058	.016	.117	.057	.016	.112	.056	.016	.107	.054	.016	.103	.053	.015	
9.0	.114	.055	.015	.112	.055	.015	.108	.053	.015	.104	.052	.015	.100	.051	.015	
10.0	.110	.053	.015	.108	.052	.015	.104	.051	.014	.100	.050	.014	.097	.049	.014	

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	.207	.207	.207	.177	.177	.177	.120	.120	.120	.069	.069	.069	.022	.022	.022	
1.0	.184	.171	.159	.157	.147	.137	.108	.101	.095	.062	.058	.055	.020	.019	.018	
2.0	.166	.144	.125	.142	.124	.108	.097	.086	.075	.056	.050	.044	.018	.016	.014	
3.0	.151	.123	.101	.130	.106	.087	.089	.074	.061	.051	.043	.036	.017	.014	.012	
4.0	.139	.107	.082	.119	.092	.071	.082	.064	.050	.047	.038	.030	.015	.012	.010	
5.0	.129	.094	.068	.110	.081	.059	.076	.057	.042	.044	.033	.025	.014	.011	.008	
6.0	.120	.083	.057	.103	.072	.050	.071	.050	.035	.041	.030	.021	.013	.010	.007	
7.0	.112	.075	.048	.097	.065	.042	.067	.045	.030	.039	.027	.018	.013	.009	.006	
8.0	.106	.068	.042	.091	.059	.036	.063	.041	.026	.037	.024	.015	.012	.008	.005	
9.0	.100	.062	.036	.086	.054	.031	.060	.038	.022	.035	.022	.013	.011	.007	.004	
10.0	.095	.057	.032	.082	.050	.028	.057	.035	.020	.033	.021	.012	.011	.007	.004	

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 December 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: 92EL052030/WHBK						TYPE:			WEIGHT: 1		
SPEC.:						DIM.: 415 x 45 x 35			SERIAL No.: 0		
MFR.: Elmark Industries JSC						SUR.: rectangle			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	12.8	13.6	13.0	13.7	13.9	14.0	14.8	14.2	14.9	15.1
	3H	12.6	13.4	12.9	13.5	13.7	13.8	14.6	14.1	14.7	14.9
	4H	12.5	13.2	12.8	13.4	13.7	13.7	14.4	14.0	14.6	14.9
	6H	12.4	13.1	12.7	13.3	13.6	13.6	14.3	13.9	14.5	14.8
	8H	12.4	13.0	12.7	13.3	13.5	13.6	14.2	13.9	14.5	14.7
	12H	12.4	13.0	12.7	13.2	13.5	13.6	14.2	13.9	14.4	14.7
4H	2H	12.6	13.3	12.8	13.5	13.7	13.7	14.4	14.0	14.7	14.9
	3H	12.4	13.0	12.7	13.3	13.5	13.6	14.2	13.9	14.4	14.7
	4H	12.3	12.8	12.6	13.1	13.4	13.5	14.0	13.8	14.3	14.6
	6H	12.2	12.7	12.6	13.0	13.3	13.4	13.9	13.8	14.2	14.5
	8H	12.1	12.6	12.5	12.9	13.3	13.3	13.8	13.7	14.1	14.5
	12H	12.1	12.5	12.5	12.9	13.3	13.3	13.7	13.7	14.1	14.4
8H	4H	12.1	12.6	12.5	12.9	13.3	13.3	13.8	13.7	14.1	14.5
	6H	12.0	12.4	12.5	12.8	13.2	13.2	13.6	13.6	14.0	14.4
	8H	12.0	12.3	12.4	12.7	13.2	13.2	13.5	13.6	13.9	14.3
	12H	11.9	12.2	12.4	12.6	13.1	13.1	13.4	13.6	13.8	14.3
12H	4H	12.1	12.5	12.5	12.9	13.3	13.3	13.7	13.7	14.1	14.4
	6H	12.0	12.3	12.4	12.7	13.2	13.2	13.5	13.6	13.9	14.3
	8H	11.9	12.2	12.4	12.6	13.1	13.1	13.4	13.6	13.8	14.3
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H		+ 3.8 / - 8.3					+ 4.4 / -10.0				
1.5H		+ 5.8 / - 4.9					+ 6.6 / - 6.0				
2.0H		+ 4.0 / -19.7					+ 4.5 / -18.6				

CIE Pub.117, 970.0 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.1)  
Area: 0.00471 m2

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 December 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: 92EL052030/WHBK	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 415 x 45 x 35	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:

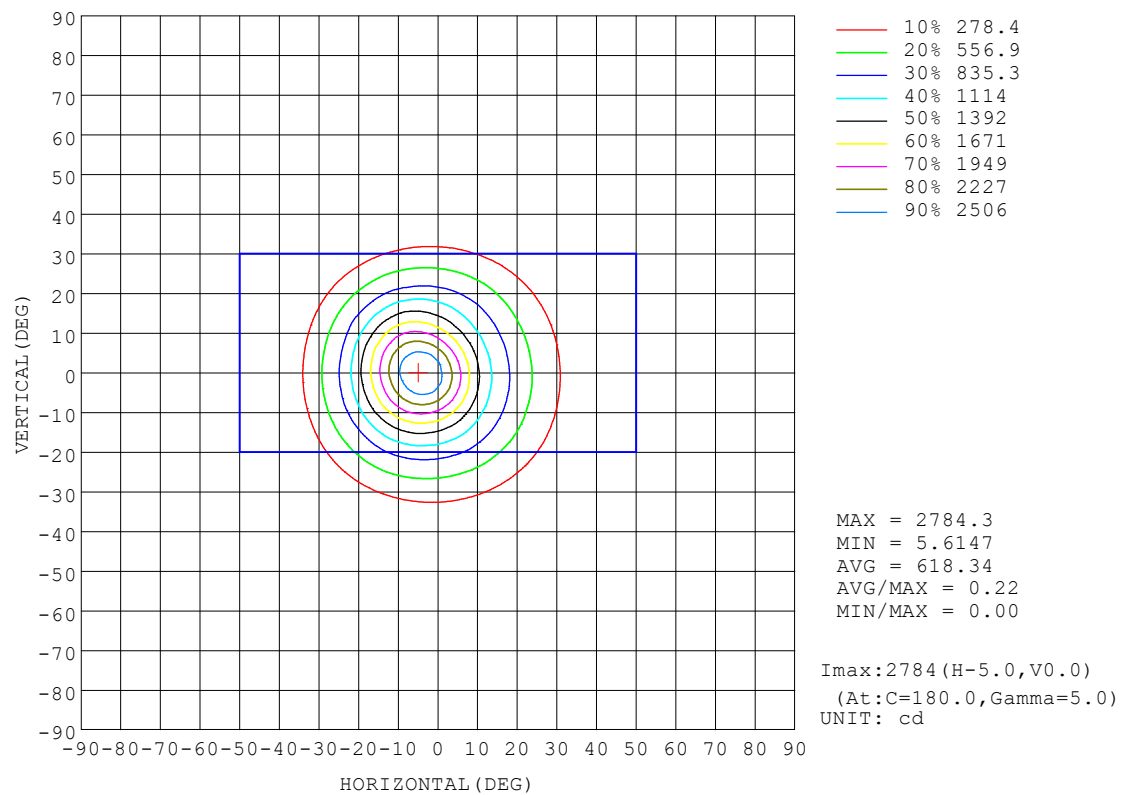
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	98	91	87	97	91	87	96	91	87	84
0.80	105	99	96	105	99	96	103	98	95	92
1.00	110	104	100	109	104	100	107	103	100	96
1.25	114	108	105	112	108	105	110	107	104	99
1.50	116	112	108	115	111	108	113	109	107	102
2.00	119	115	111	117	113	111	114	111	109	104
2.50	120	117	114	119	115	113	115	113	111	104
3.00	122	119	116	120	117	115	116	114	112	105
4.00	124	121	119	122	119	118	118	116	115	107
5.00	125	123	121	123	121	120	119	117	116	108
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: 08 December 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: 92EL052030/WHBK	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 415 x 45 x 35	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:



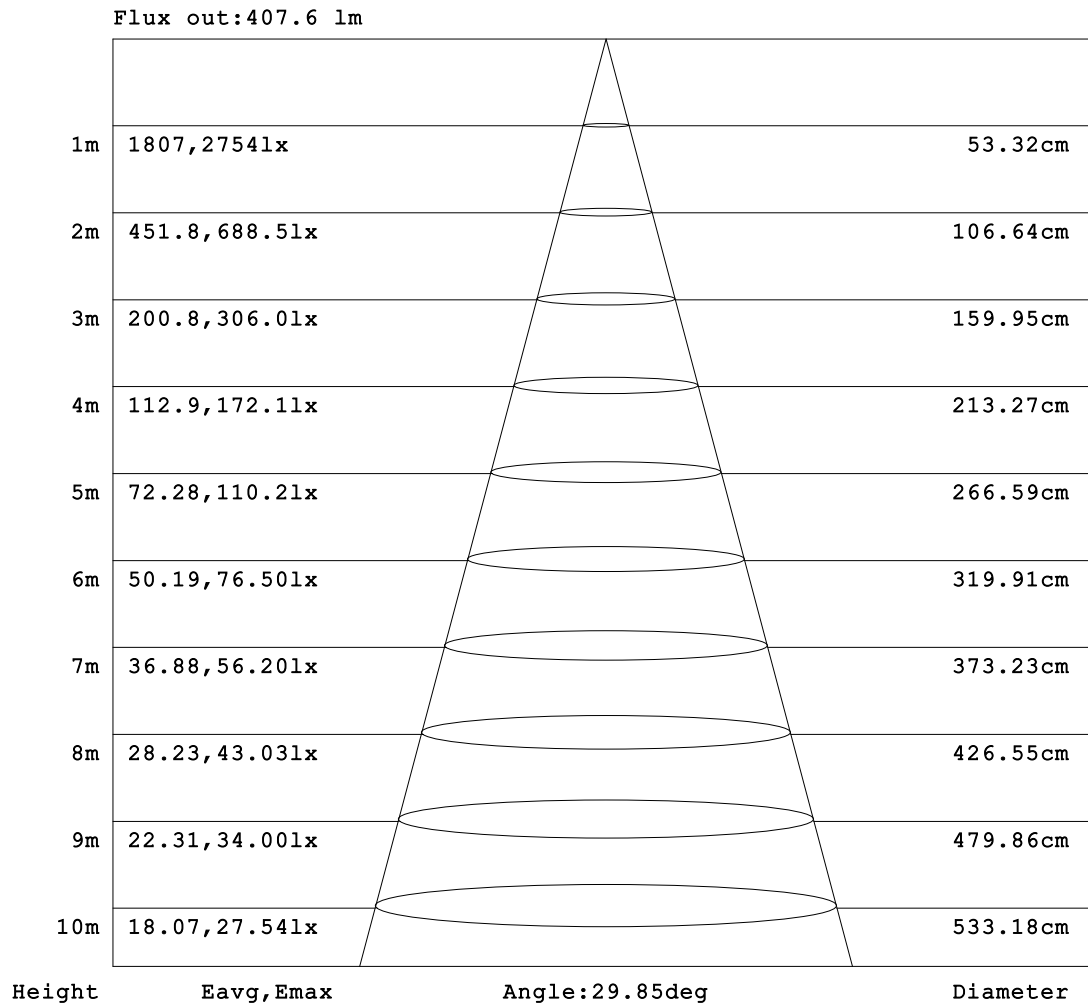
C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 December 2022

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: 92EL052030/WHBK	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 415 x 45 x 35	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:



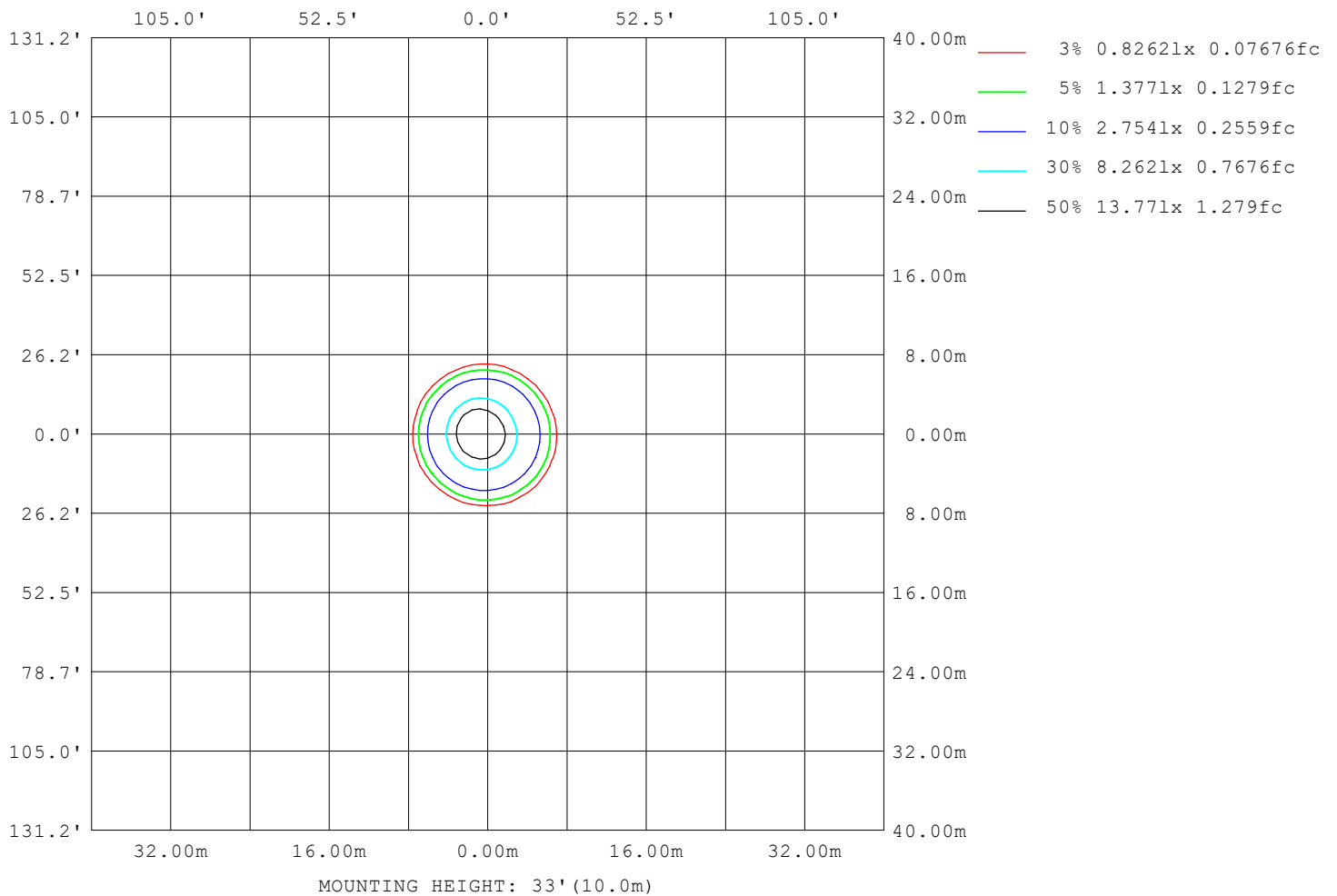
**Note:**The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 December 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: 92EL052030/WHBK	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 415 x 45 x 35	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature: 25.3°C  
Operators:  
Test Date: 08 December 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: 92EL052030/WHBK	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 415 x 45 x 35	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:

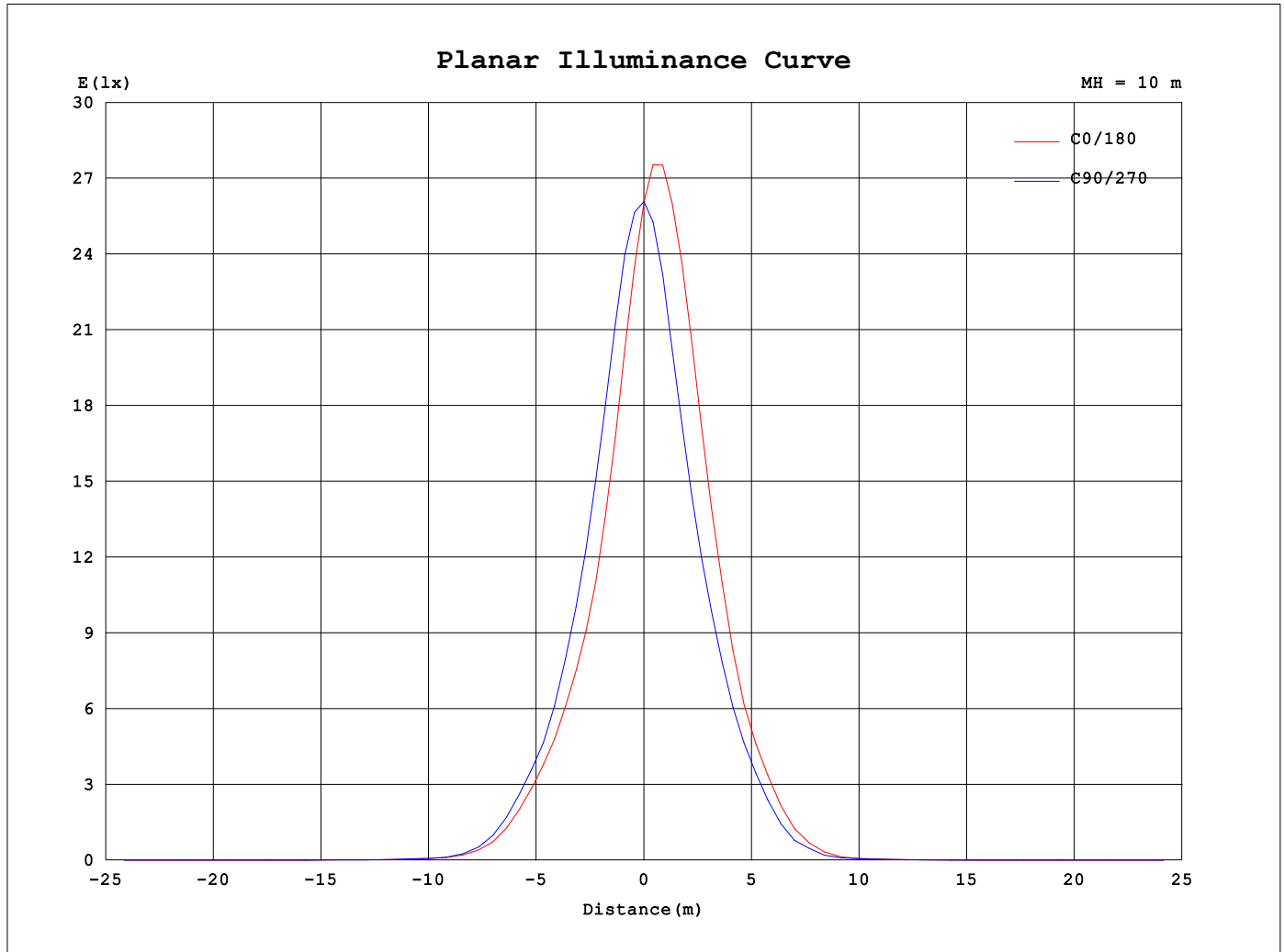
AvgL	cd/m2
L_0~180 (65) av	95
L_0~180 (75) av	47
L_0~180 (85) av	50
L_90~270 (65) av	98
L_90~270 (75) av	49
L_90~270 (85) av	40
L_45 (65) av	93
L_45 (75) av	44
L_45 (85) av	48

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 December 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: 08 December 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:

```

```

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:

```