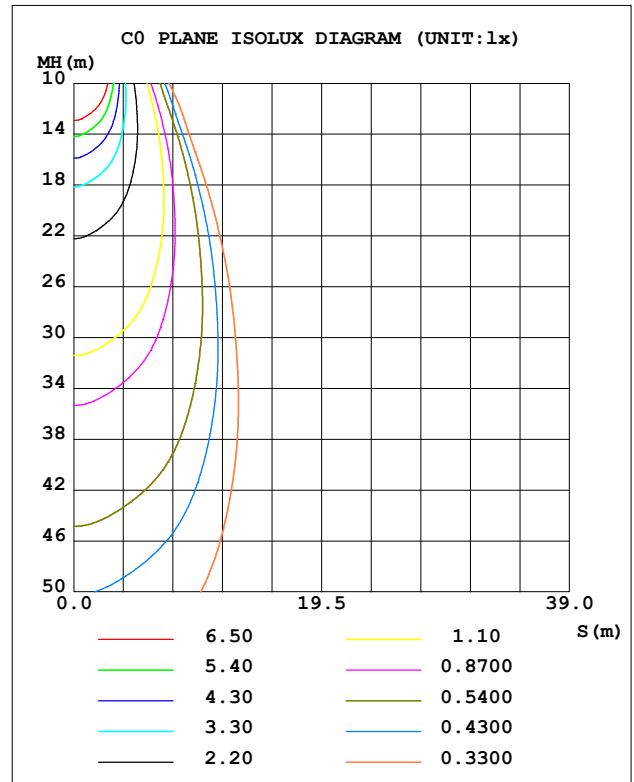
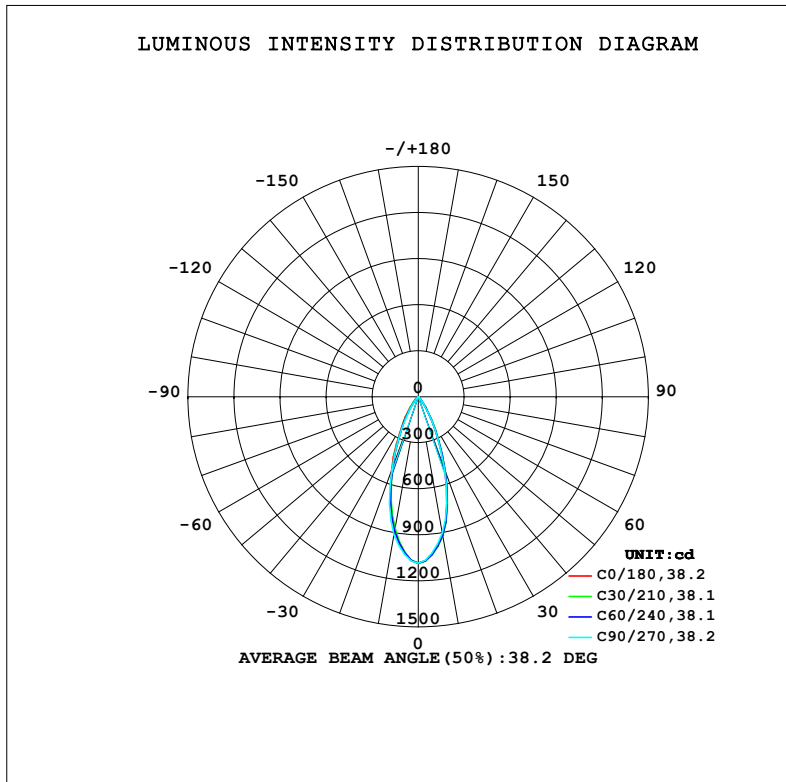


## LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 93M20FGL0630/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 116 x 108 x 20	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	93M20FGL0630/BL	I <sub>max</sub> (cd)	1084	S/MH (C0/180)	0.62
NOMINAL POWER (W)	6	LOR (%)	104.0	S/MH (C90/270)	0.62
RATED VOLTAGE (V)	48	TOTAL FLUX (lm)	519.92	η UP, DN (C0-180)	0.0, 51.5
NOMINAL FLUX (lm)	500	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 52.5
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	48	η down (%)	104.0	CIBSE SHR MAX	0.65



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators:  
Test Date: 09 November 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	915.8	922.8	902.2	876.5	880.1	879.0	911.8	943.7	0- 10	94.12	94.12	18.1,18.8
20	503.2	517.7	500.9	494.0	511.6	492.5	504.8	539.7	10- 20	196.7	290.9	55.9,58.2
30	166.9	178.8	179.0	185.5	201.0	184.7	170.3	183.2	20- 30	147.7	438.6	84.4,87.7
40	41.07	38.58	37.27	49.35	63.88	50.29	37.64	39.95	30- 40	61.12	499.7	96.1,99.9
50	7.295	7.174	5.272	11.20	18.35	11.33	4.575	6.974	40- 50	17.94	517.7	99.6,104
60	0.0818	0.0736	0.0681	0.0846	0	0.0110	0.0164	0.0041	50- 60	2.248	519.9	100,104
70	0.0109	0.0041	0	0.0123	0	0.0014	0.0000	0	60- 70	0.0204	519.9	100,104
80	0	0	0	0	0	0	0	0	70- 80	0.0010	519.9	100,104
90	0	0	0	0	0	0	0	0	80- 90	0	519.9	100,104
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): 511.59 lm

%lum = 98.4%

%lamp = 102.3%

Conical surface Flux(130deg): 519.92 lm

%lum = 100.0%

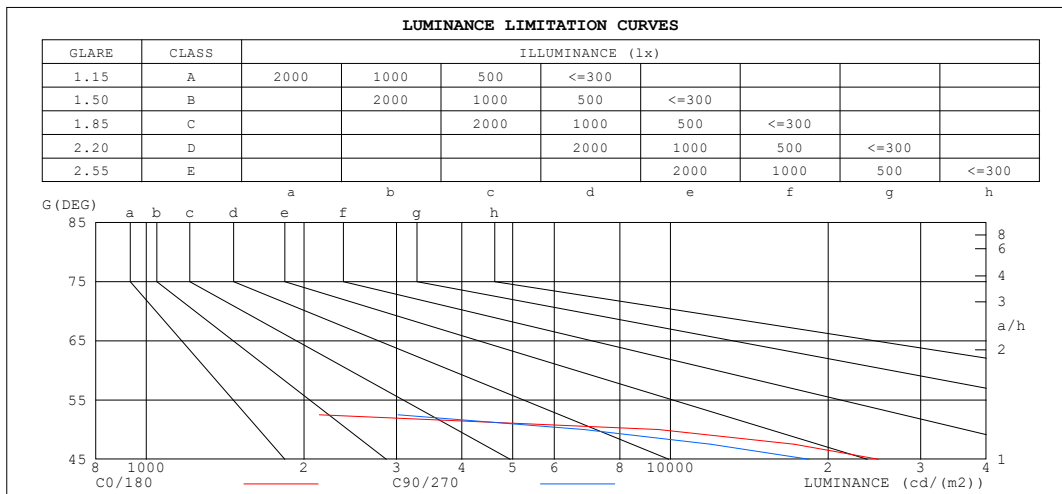
%lamp = 104.0%

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:09 November 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: 93M20FGL0630/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 116 x 108 x 20	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	0	0
80	0	0
75	0	0
70	27	0
65	75	43
60	136	113
55	238	592
50	9471	6831
45	24910	18363

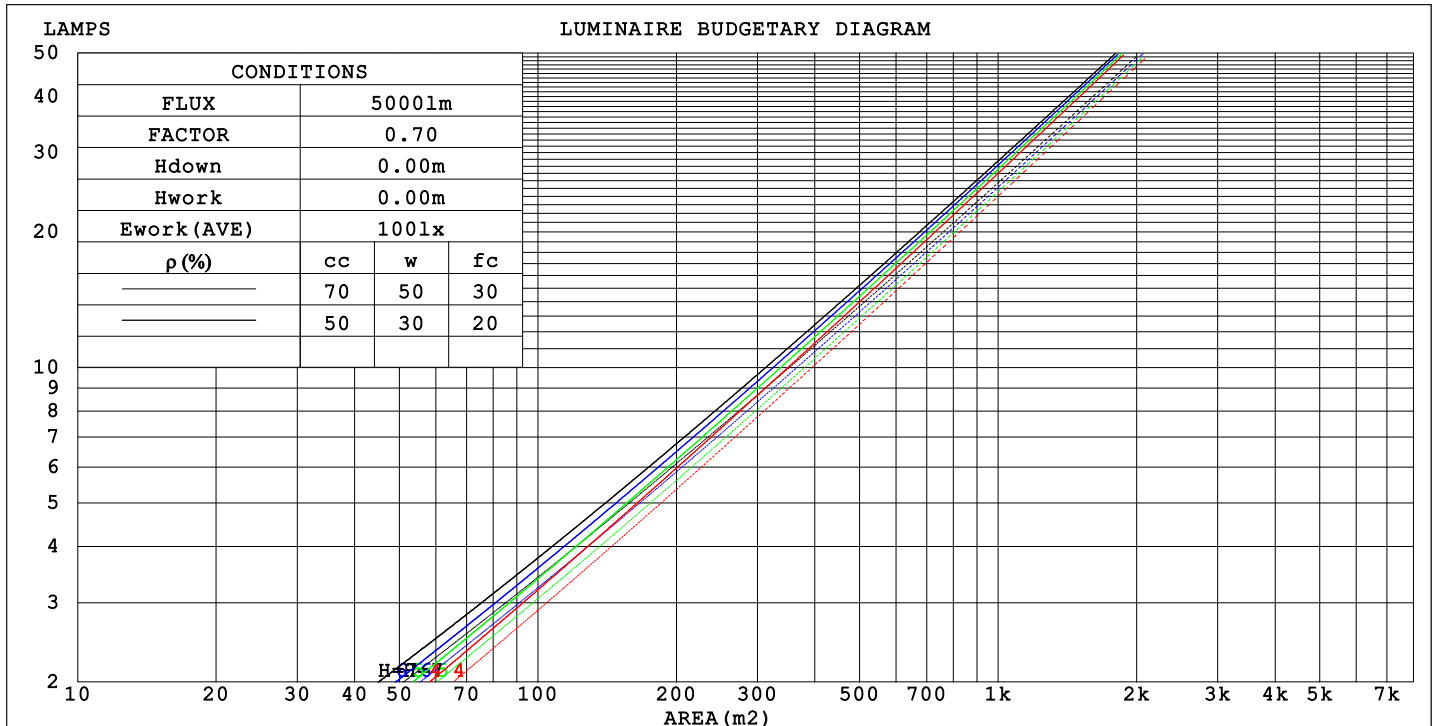
C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators:  
Test Date: 09 November 2022

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: 93M20FGL0630/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 116 x 108 x 20	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	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 November 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: 93M20FGL0630/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 116 x 108 x 20	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	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	.166	.094	.030	.159	.090	.029	.146	.084	.027	.134	.077	.025	.123	.071	.023	
2.0	.157	.086	.026	.151	.083	.026	.140	.078	.024	.130	.073	.023	.121	.068	.022	
3.0	.148	.079	.024	.144	.077	.023	.134	.073	.022	.126	.069	.021	.118	.065	.020	
4.0	.141	.073	.022	.137	.072	.021	.129	.068	.020	.122	.065	.020	.115	.062	.019	
5.0	.134	.068	.020	.131	.067	.020	.124	.064	.019	.117	.062	.018	.112	.060	.018	
6.0	.128	.064	.018	.125	.063	.018	.119	.061	.018	.113	.059	.017	.108	.057	.017	
7.0	.122	.060	.017	.120	.060	.017	.114	.058	.017	.109	.056	.016	.105	.054	.016	
8.0	.117	.057	.016	.115	.056	.016	.110	.055	.016	.106	.054	.015	.102	.052	.015	
9.0	.112	.054	.015	.110	.054	.015	.106	.052	.015	.102	.051	.015	.098	.050	.014	
10.0	.108	.052	.014	.106	.051	.014	.102	.050	.014	.099	.049	.014	.095	.048	.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	.198	.198	.198	.169	.169	.169	.116	.116	.116	.066	.066	.066	.021	.021	.021	
1.0	.177	.164	.152	.151	.141	.131	.103	.097	.091	.060	.056	.053	.019	.018	.017	
2.0	.160	.138	.120	.137	.119	.103	.094	.082	.072	.054	.048	.042	.017	.015	.014	
3.0	.146	.118	.096	.125	.102	.083	.086	.071	.058	.049	.041	.034	.016	.013	.011	
4.0	.134	.102	.078	.115	.088	.068	.079	.062	.048	.046	.036	.028	.015	.012	.009	
5.0	.124	.090	.065	.107	.078	.056	.074	.054	.040	.043	.032	.024	.014	.010	.008	
6.0	.116	.080	.054	.100	.069	.047	.069	.049	.033	.040	.029	.020	.013	.009	.007	
7.0	.109	.072	.046	.094	.062	.040	.065	.044	.028	.038	.026	.017	.012	.008	.006	
8.0	.103	.065	.040	.088	.057	.034	.061	.040	.024	.036	.023	.015	.012	.008	.005	
9.0	.097	.060	.034	.084	.052	.030	.058	.036	.021	.034	.022	.013	.011	.007	.004	
10.0	.093	.055	.030	.080	.048	.026	.055	.034	.019	.032	.020	.011	.010	.007	.004	

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:09 November 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: 93M20FGL0630/BL					TYPE:			WEIGHT: 1		
SPEC.:					DIM.: 116 x 108 x 20			SERIAL No.: 0		
MFR.: Elmark Industries JSC					SUR.: paralelepiped			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	19.0	19.8	19.2	20.0	20.1	18.8	19.7	19.0	19.8	20.0
3H	18.8	19.6	19.1	19.8	20.0	18.7	19.4	18.9	19.6	19.8
4H	18.7	19.5	19.0	19.7	19.9	18.6	19.3	18.9	19.5	19.7
6H	18.7	19.3	19.0	19.6	19.8	18.5	19.2	18.8	19.4	19.7
8H	18.6	19.3	18.9	19.5	19.8	18.5	19.1	18.8	19.4	19.6
12H	18.6	19.2	18.9	19.5	19.7	18.4	19.0	18.7	19.3	19.6
4H 2H	18.7	19.5	19.0	19.7	19.9	18.6	19.3	18.9	19.5	19.7
3H	18.6	19.2	18.9	19.5	19.7	18.4	19.0	18.7	19.3	19.6
4H	18.5	19.0	18.8	19.3	19.6	18.3	18.9	18.7	19.2	19.5
6H	18.4	18.9	18.7	19.2	19.5	18.2	18.7	18.6	19.0	19.4
8H	18.3	18.8	18.7	19.1	19.5	18.2	18.6	18.6	19.0	19.3
12H	18.3	18.7	18.7	19.1	19.5	18.1	18.5	18.5	18.9	19.3
8H 4H	18.3	18.8	18.7	19.1	19.5	18.2	18.6	18.6	19.0	19.3
6H	18.2	18.6	18.6	19.0	19.4	18.1	18.4	18.5	18.8	19.2
8H	18.2	18.5	18.6	18.9	19.4	18.0	18.3	18.4	18.8	19.2
12H	18.1	18.4	18.6	18.8	19.3	17.9	18.2	18.4	18.7	19.1
12H 4H	18.3	18.7	18.7	19.1	19.5	18.1	18.5	18.5	18.9	19.3
6H	18.2	18.5	18.6	18.9	19.4	18.0	18.3	18.4	18.8	19.2
8H	18.1	18.4	18.6	18.8	19.3	17.9	18.2	18.4	18.7	19.1
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 3.2 / -33.3					+ 3.8 / -33.0				
1.5H	+ 5.2 / -31.3					+ 6.0 / -29.7				
2.0H	+ 7.6 / -33.2					+ 7.6 / -28.5				

CIE Pub.117, 500.0 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.4)  
Area: 0.0012 m2

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:09 November 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: 93M20FGL0630/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 116 x 108 x 20	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:

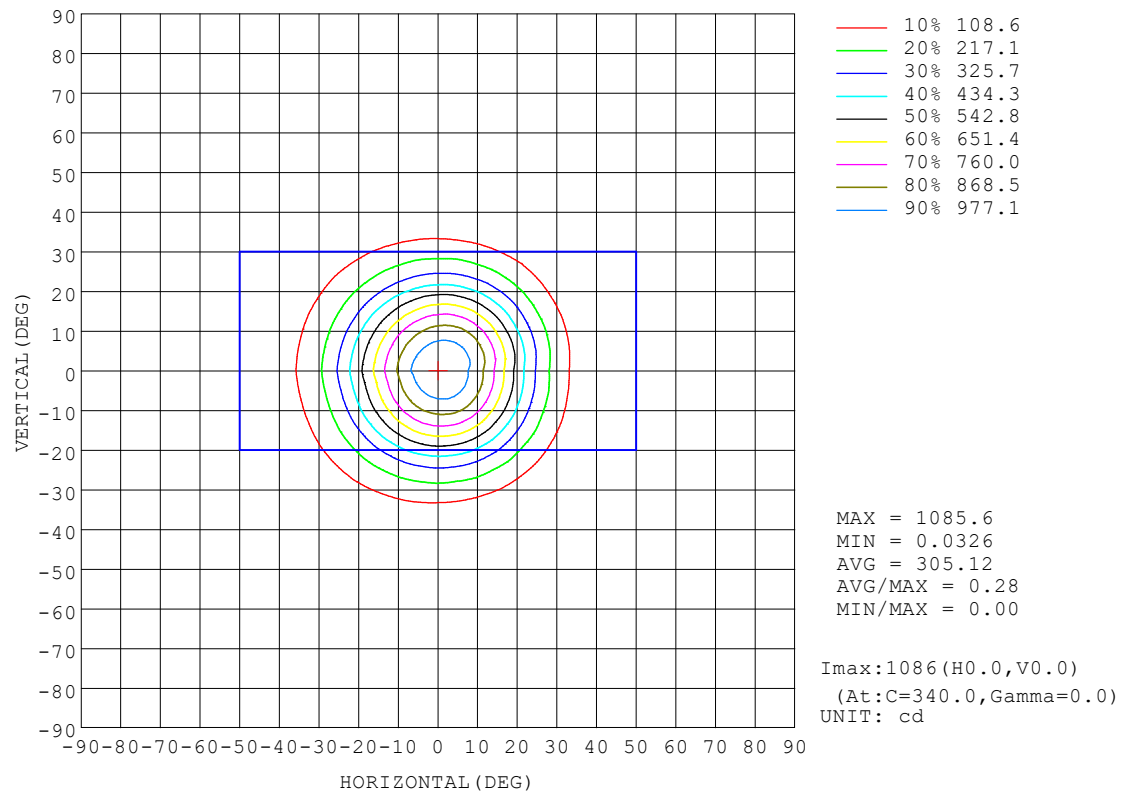
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	93	86	83	92	86	83	91	86	82	79
0.80	100	94	91	100	94	91	98	94	90	87
1.00	105	99	96	104	99	95	102	98	95	91
1.25	108	103	100	107	103	100	105	102	99	95
1.50	111	107	103	110	106	103	108	104	102	97
2.00	114	110	107	112	109	106	109	107	104	99
2.50	115	112	109	114	110	108	110	108	106	100
3.00	117	113	111	115	112	110	111	109	107	101
4.00	119	116	114	117	114	112	113	111	110	102
5.00	120	118	116	118	116	114	114	112	111	103
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 November 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: 93M20FGL0630/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 116 x 108 x 20	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:



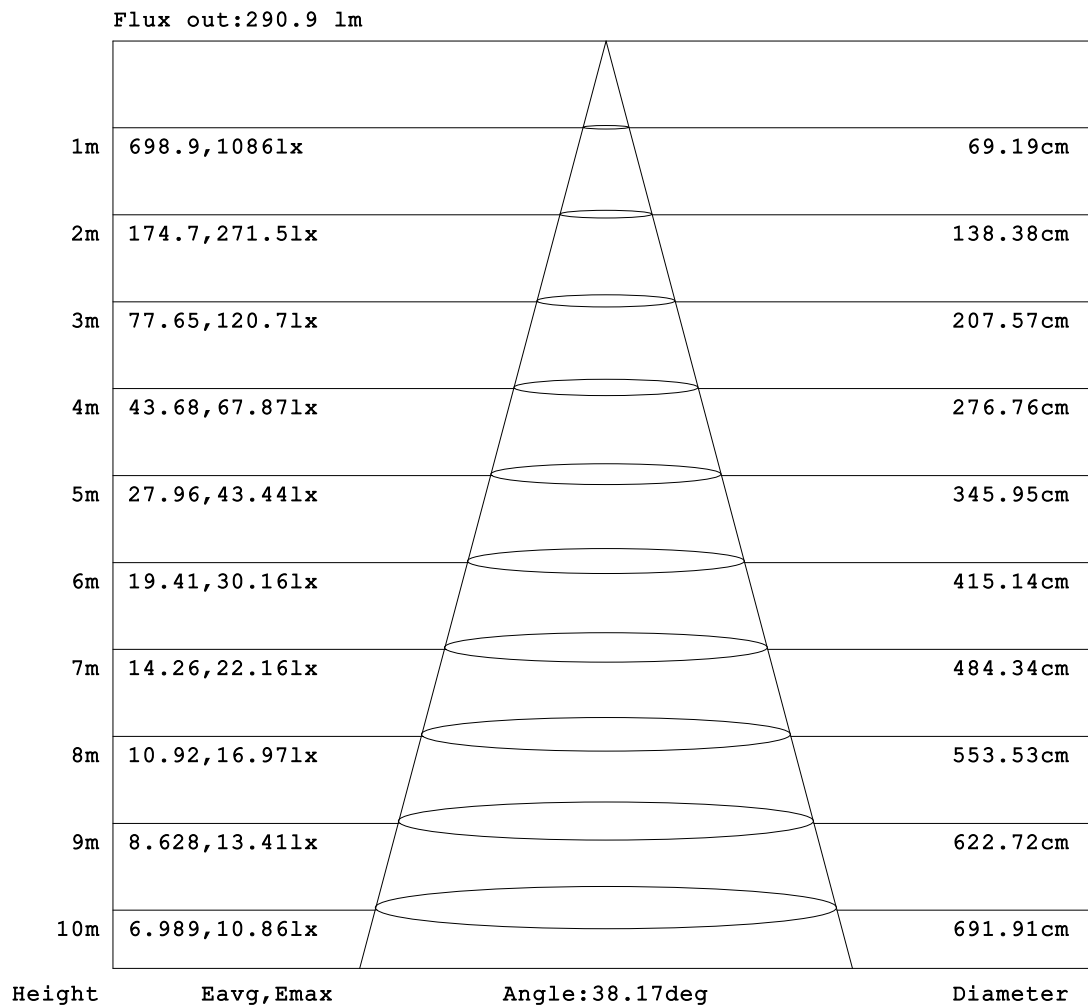
C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:09 November 2022

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: 93M20FGL0630/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 116 x 108 x 20	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:



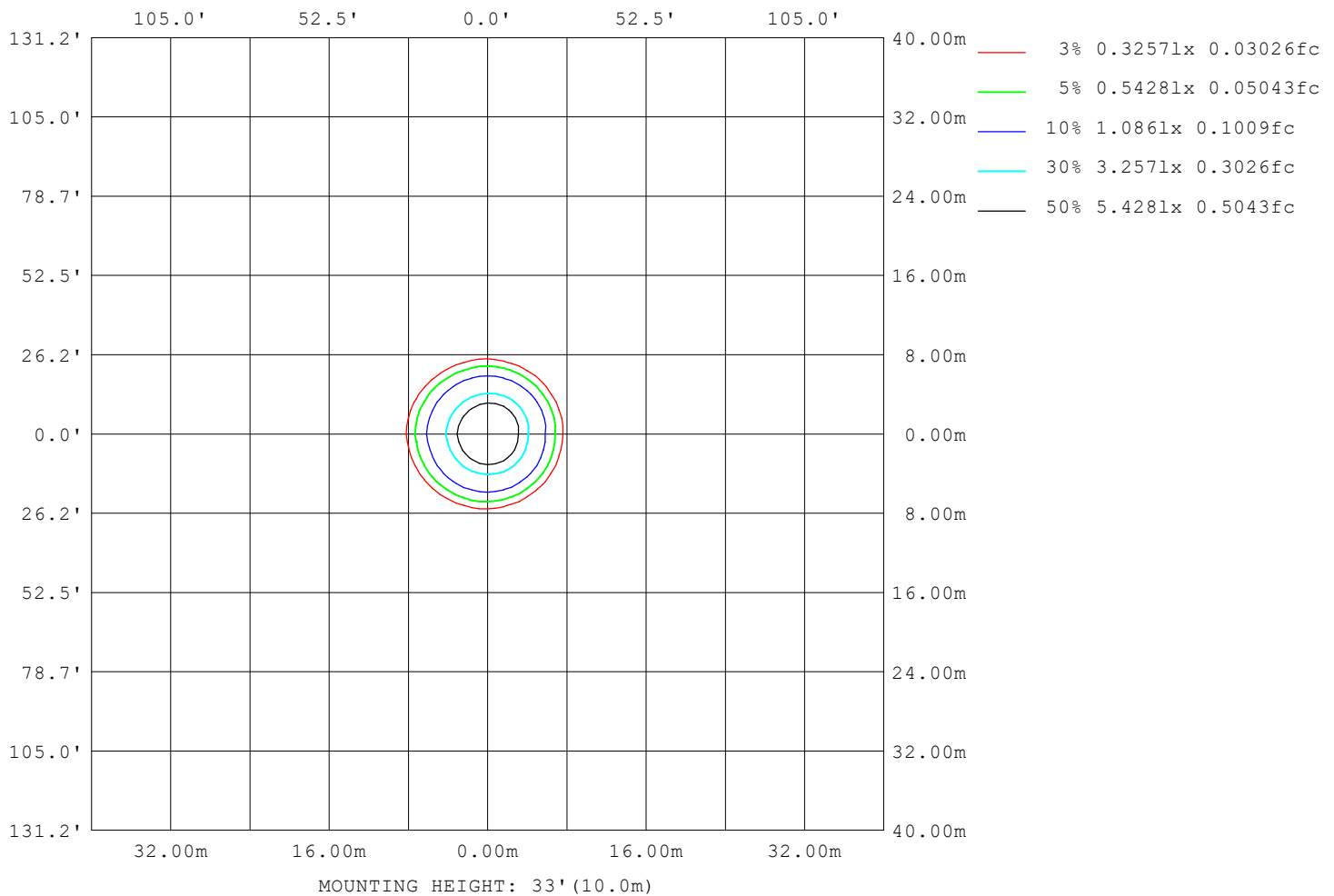
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:09 November 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: 93M20FGL0630/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 116 x 108 x 20	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 09 November 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: 93M20FGL0630/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 116 x 108 x 20	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:

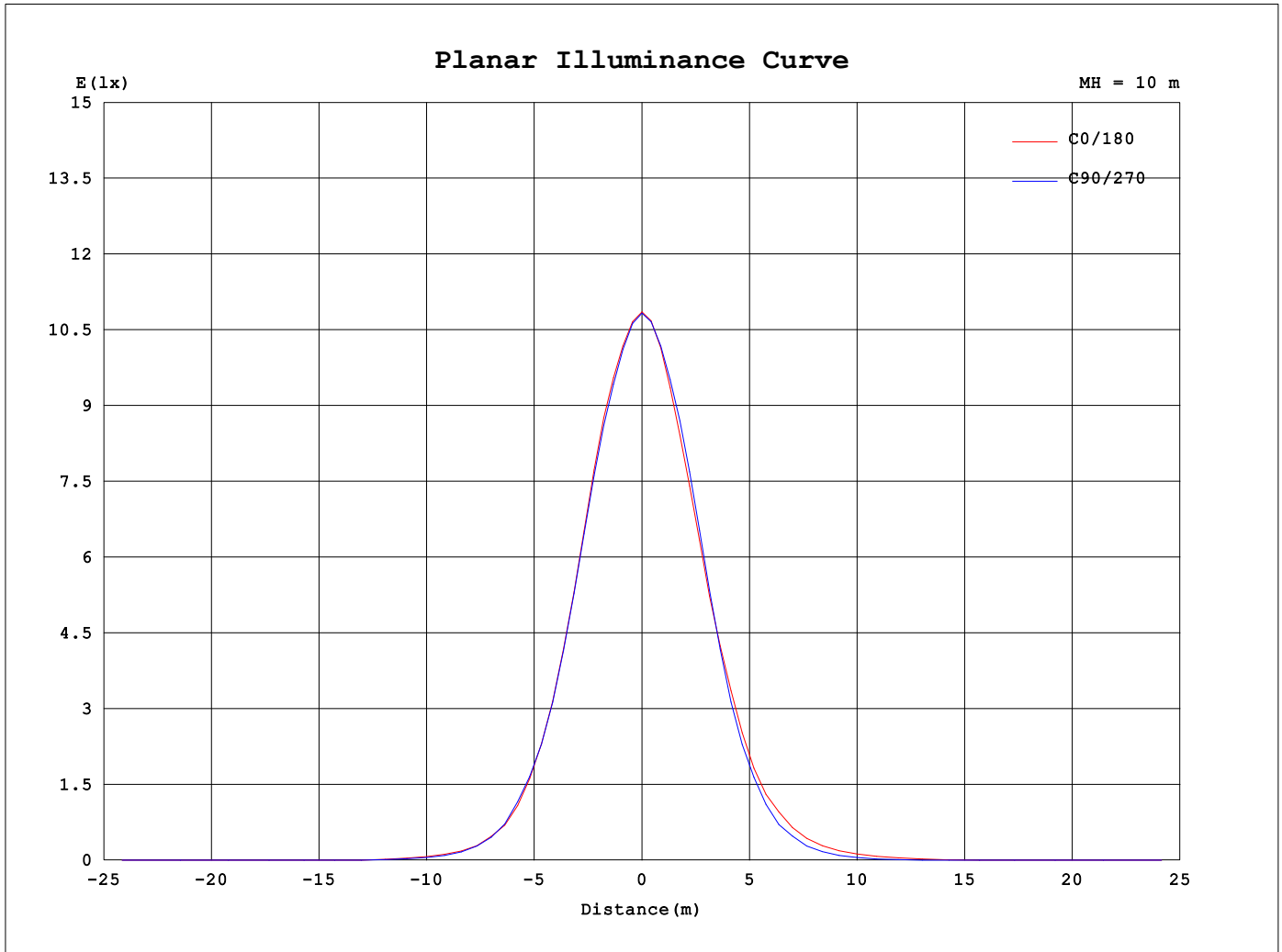
AvgL	cd/m2
L_0~180 (65) av	38
L_0~180 (75) av	0
L_0~180 (85) av	0
L_90~270 (65) av	29
L_90~270 (75) av	0
L_90~270 (85) av	0
L_45 (65) av	36
L_45 (75) av	1
L_45 (85) av	0

Standard: GB/T 29293-2012

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

```