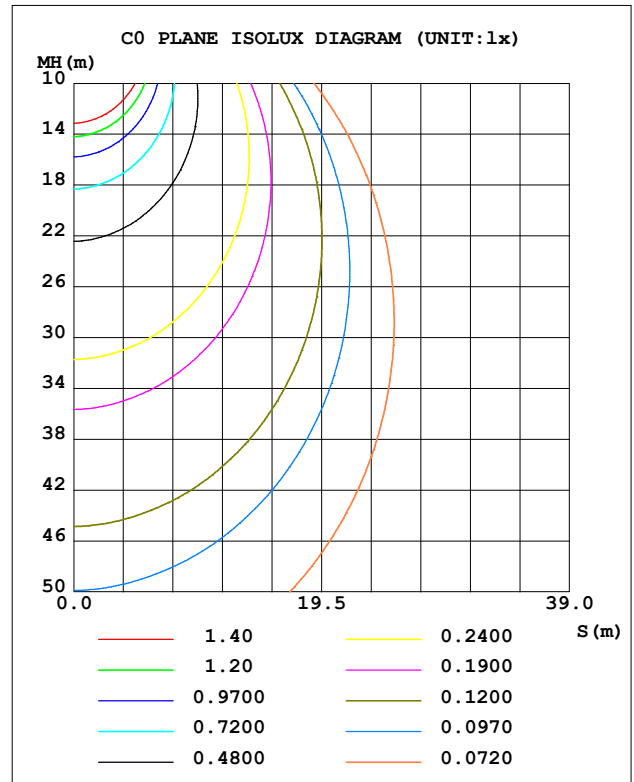
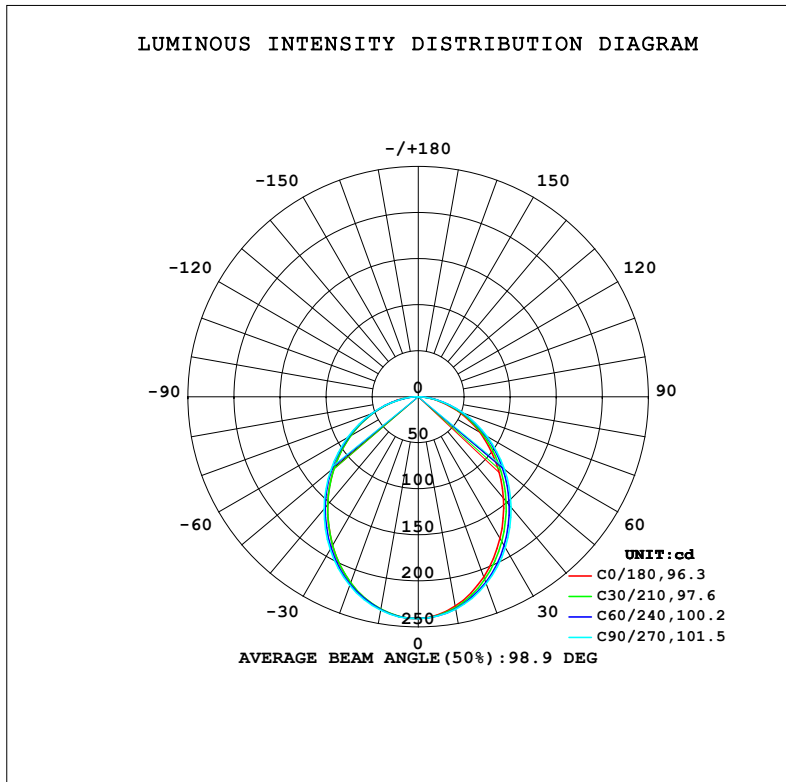


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 93M20FFL1240/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 x 108 x 20	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	93M20FFL1240/BL	Imax (cd)	241.0	S/MH (C0/180)	1.16
NOMINAL POWER (W)	12	LOR (%)	79.5	S/MH (C90/270)	1.19
RATED VOLTAGE (V)	48	TOTAL FLUX (lm)	596.24	η UP, DN (C0-180)	0.0, 39.3
NOMINAL FLUX (lm)	750	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 40.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	48	η down (%)	79.5	CIBSE SHR MAX	1.35



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

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	230.9	233.0	234.3	233.2	234.6	234.2	235.3	233.9	0- 10	22.65	22.65	3.8,3.02
20	208.3	212.9	216.0	213.9	215.1	215.6	217.8	214.5	10- 20	63.45	86.10	14.4,11.5
30	177.7	184.0	189.0	185.5	186.2	187.8	191.4	186.2	20- 30	92.48	178.6	30,23.8
40	143.9	151.2	157.1	152.6	153.3	155.1	159.2	153.5	30- 40	106.3	284.8	47.8,38
50	109.8	116.7	122.1	118.0	118.8	120.5	124.1	119.1	40- 50	104.9	389.8	65.4,52
60	76.99	82.71	86.42	83.69	85.02	86.15	88.68	85.03	50- 60	90.69	480.5	80.6,64.1
70	45.62	49.81	51.74	50.53	52.71	52.78	53.98	51.92	60- 70	66.93	547.4	91.8,73
80	17.96	20.43	20.71	21.05	23.91	22.85	22.44	22.07	70- 80	37.85	585.2	98.2,78
90	0.3639	0.4460	0.3867	1.851	3.088	2.094	0.4956	0.7383	80- 90	10.99	596.2	100,79.5
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): 338.36 lm

%lum = 56.7%
%lamp = 45.1%

Conical surface Flux(130deg): 517.37 lm

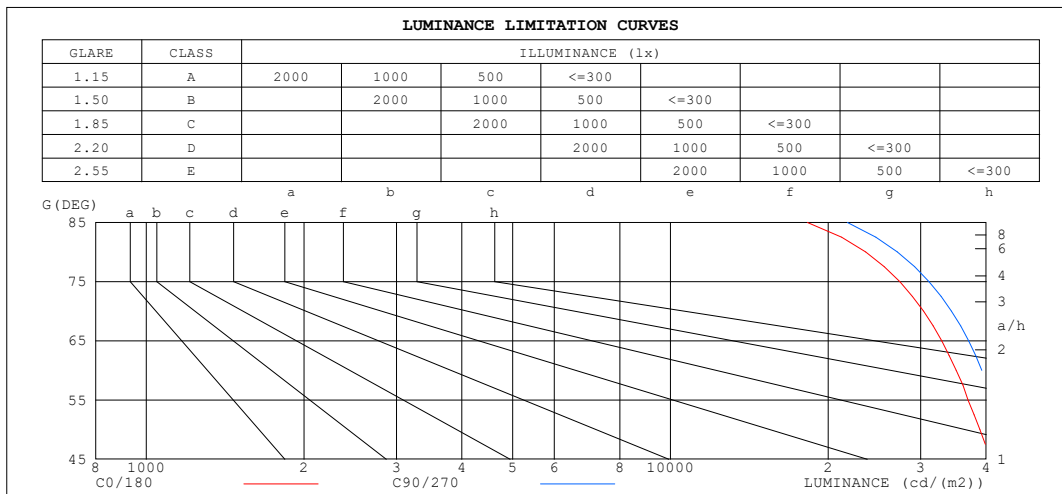
%lum = 86.8%
%lamp = 69.0%

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

LUMINANCE LIMITATION CURVES

NAME: 93M20FFL1240/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 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	18242	21733
80	23558	27089
75	27373	31138
70	30387	34365
65	32907	37034
60	35079	39265
55	36948	41291
50	38915	43163
45	40834	44913

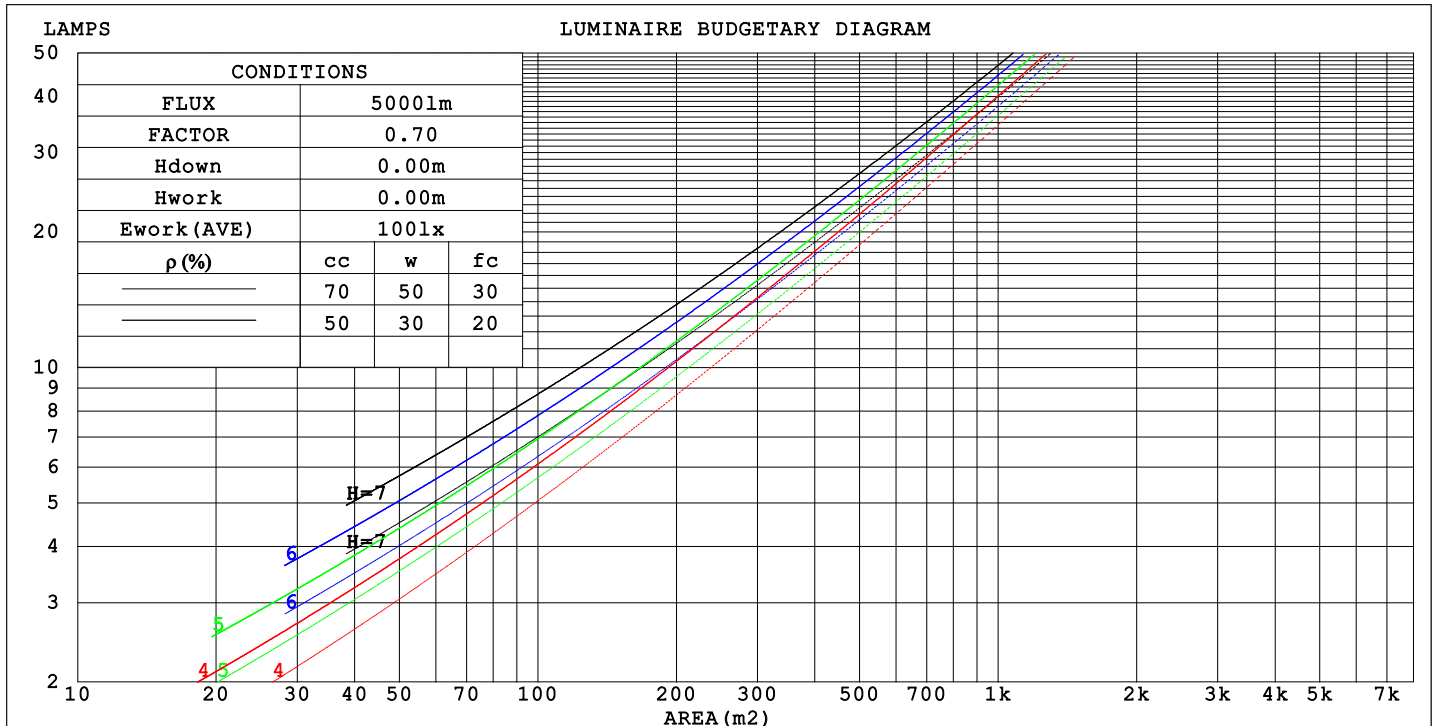
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 08 November 2022

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: 93M20FFL1240/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 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: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 08 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: 93M20FFL1240/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 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	.239	.136	.043	.233	.133	.042	.223	.128	.041	.213	.123	.039	.204	.118	.038	
2.0	.225	.123	.038	.220	.121	.037	.211	.117	.036	.202	.113	.036	.194	.110	.035	
3.0	.209	.111	.033	.204	.109	.033	.196	.106	.032	.189	.103	.032	.181	.100	.031	
4.0	.193	.100	.029	.189	.099	.029	.182	.096	.029	.175	.094	.028	.169	.092	.028	
5.0	.179	.091	.026	.175	.090	.026	.169	.088	.026	.163	.086	.026	.157	.084	.025	
6.0	.166	.083	.024	.163	.082	.024	.157	.081	.023	.152	.079	.023	.147	.077	.023	
7.0	.155	.076	.022	.152	.076	.022	.147	.074	.021	.142	.073	.021	.138	.072	.021	
8.0	.145	.071	.020	.142	.070	.020	.138	.069	.020	.133	.068	.019	.129	.066	.019	
9.0	.136	.066	.018	.134	.065	.018	.130	.064	.018	.126	.063	.018	.122	.062	.018	
10.0	.128	.061	.017	.126	.061	.017	.122	.060	.017	.119	.059	.017	.115	.058	.017	

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	.151	.151	.151	.129	.129	.129	.088	.088	.088	.051	.051	.051	.016	.016	.016	
1.0	.143	.124	.107	.122	.107	.092	.084	.073	.064	.048	.042	.037	.015	.014	.012	
2.0	.136	.105	.079	.116	.090	.068	.080	.062	.047	.046	.036	.028	.015	.012	.009	
3.0	.130	.091	.060	.111	.078	.052	.076	.054	.036	.044	.032	.021	.014	.010	.007	
4.0	.123	.080	.047	.106	.069	.041	.073	.048	.029	.042	.028	.017	.014	.009	.006	
5.0	.117	.072	.038	.101	.062	.033	.069	.043	.023	.040	.025	.014	.013	.008	.005	
6.0	.112	.065	.032	.096	.056	.028	.066	.039	.020	.038	.023	.012	.012	.008	.004	
7.0	.106	.060	.027	.092	.052	.023	.063	.036	.017	.037	.021	.010	.012	.007	.003	
8.0	.101	.055	.023	.087	.048	.020	.060	.033	.014	.035	.020	.009	.011	.006	.003	
9.0	.097	.051	.020	.083	.044	.018	.058	.031	.013	.034	.018	.008	.011	.006	.002	
10.0	.092	.048	.018	.079	.041	.016	.055	.029	.011	.032	.017	.007	.010	.006	.002	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:08 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: 93M20FFL1240/BL					TYPE:			WEIGHT: 1			
SPEC.:					DIM.: 220 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	26.1	27.6	26.4	27.8	28.0	26.6	28.1	26.9	28.3	28.5
	3H	27.4	28.8	27.7	29.0	29.3	28.0	29.4	28.3	29.6	29.9
	4H	27.9	29.2	28.3	29.5	29.8	28.6	29.9	28.9	30.1	30.4
	6H	28.3	29.5	28.6	29.8	30.1	28.9	30.2	29.3	30.4	30.7
	8H	28.4	29.6	28.7	29.8	30.1	29.0	30.2	29.4	30.5	30.8
	12H	28.4	29.6	28.8	29.8	30.1	29.1	30.2	29.4	30.5	30.8
4H	2H	26.7	28.1	27.1	28.3	28.6	27.1	28.4	27.4	28.7	28.9
	3H	28.3	29.4	28.6	29.7	30.0	28.7	29.9	29.1	30.2	30.5
	4H	28.9	29.9	29.2	30.2	30.6	29.4	30.4	29.8	30.8	31.1
	6H	29.3	30.3	29.7	30.6	31.0	29.9	30.8	30.3	31.2	31.5
	8H	29.5	30.3	29.9	30.7	31.1	30.0	30.9	30.5	31.3	31.7
	12H	29.5	30.3	30.0	30.7	31.1	30.1	30.9	30.6	31.3	31.7
8H	4H	29.1	30.0	29.6	30.4	30.8	29.6	30.5	30.0	30.8	31.2
	6H	29.7	30.5	30.2	30.9	31.3	30.2	31.0	30.7	31.4	31.8
	8H	30.0	30.6	30.4	31.0	31.5	30.5	31.1	30.9	31.5	32.0
	12H	30.1	30.6	30.6	31.1	31.6	30.6	31.2	31.1	31.6	32.1
12H	4H	29.2	30.0	29.6	30.3	30.7	29.6	30.4	30.0	30.8	31.2
	6H	29.8	30.4	30.3	30.9	31.3	30.3	30.9	30.7	31.3	31.8
	8H	30.0	30.6	30.5	31.0	31.5	30.6	31.1	31.0	31.5	32.0
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 / - 0.4					+ 0.3 / - 0.3				

CIE Pub.117, 750.0 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.0)
Area: 0.0044 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:08 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: 93M20FFL1240/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 x 108 x 20	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:

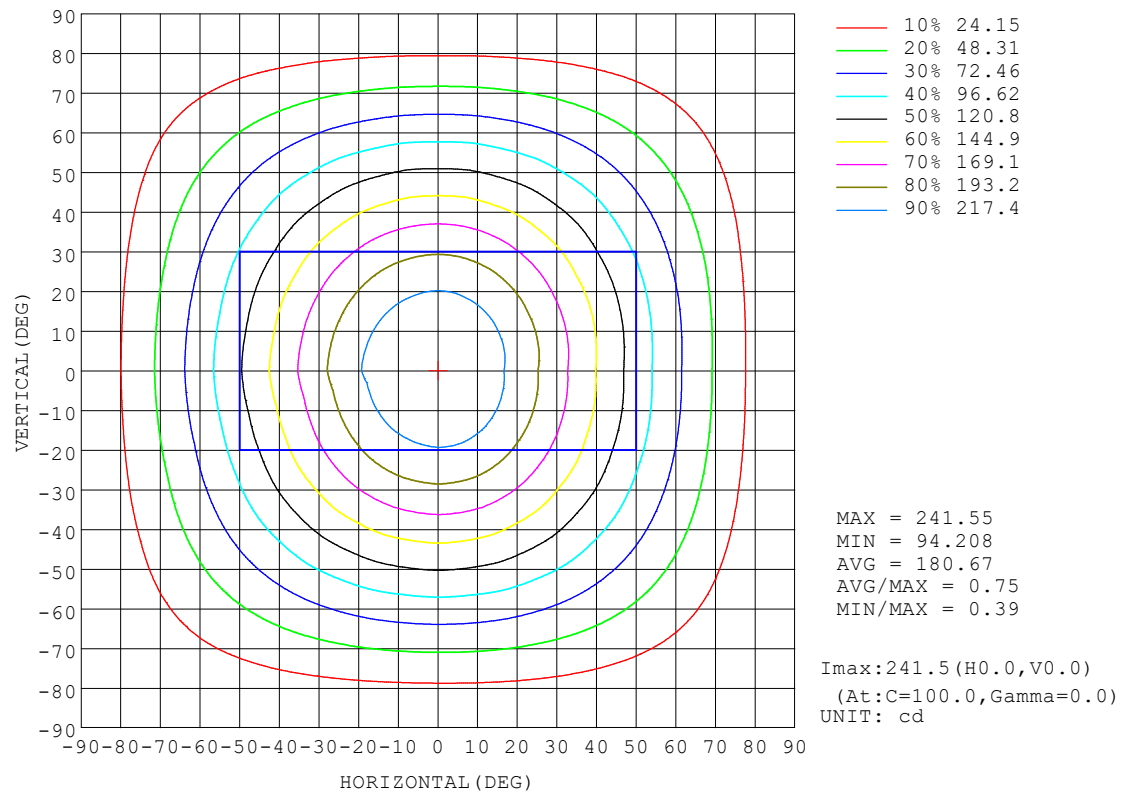
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	47	38	33	47	38	33	46	38	33	28
0.80	55	46	40	54	46	40	53	45	40	35
1.00	62	53	47	61	53	47	59	54	47	41
1.25	67	59	54	66	59	53	64	57	53	47
1.50	71	63	58	70	63	58	67	61	57	51
2.00	76	70	65	75	69	64	72	67	63	57
2.50	79	73	69	78	72	68	75	70	66	60
3.00	82	77	72	80	75	71	77	73	70	63
4.00	85	80	77	83	79	76	80	76	74	67
5.00	87	83	80	85	81	79	81	79	76	69
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 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: 93M20FFL1240/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 x 108 x 20	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:

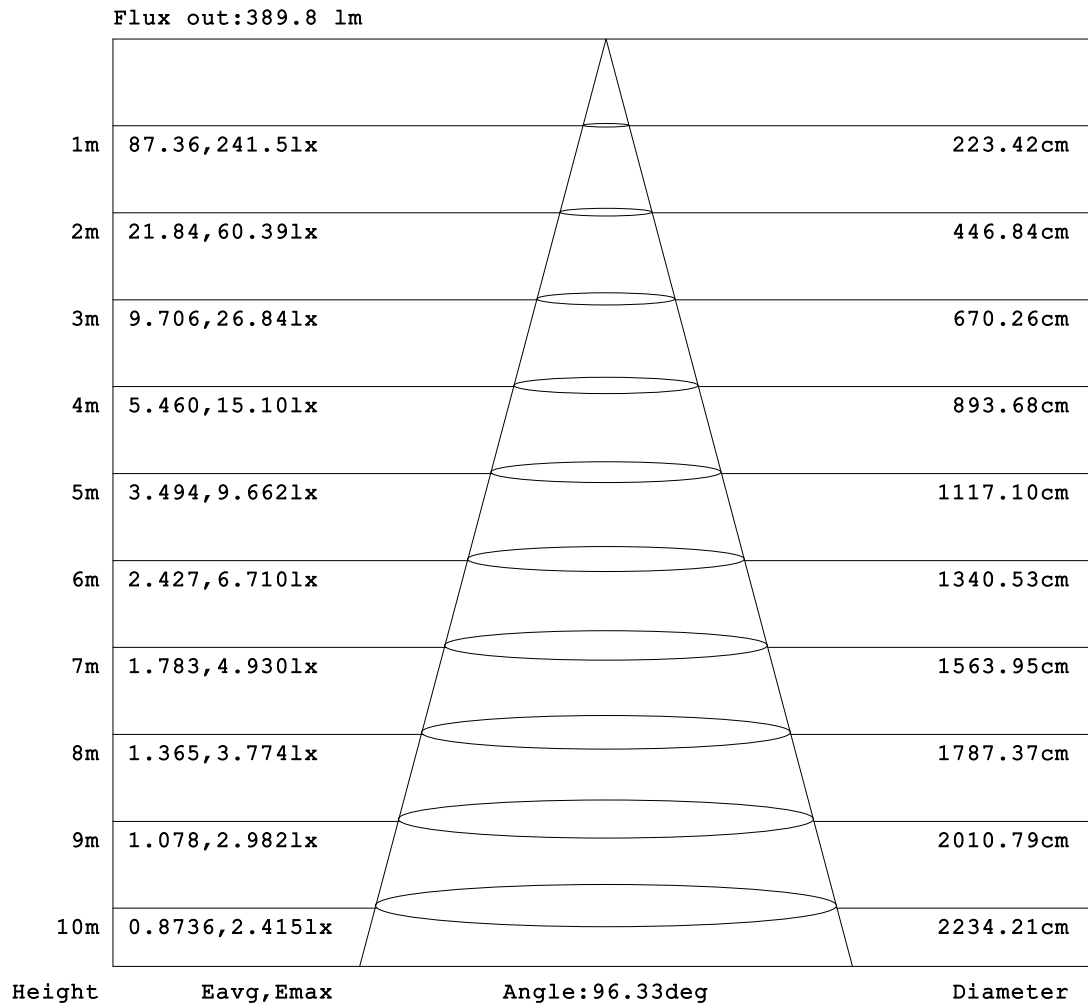


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:08 November 2022

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: 93M20FFL1240/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 x 108 x 20	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:



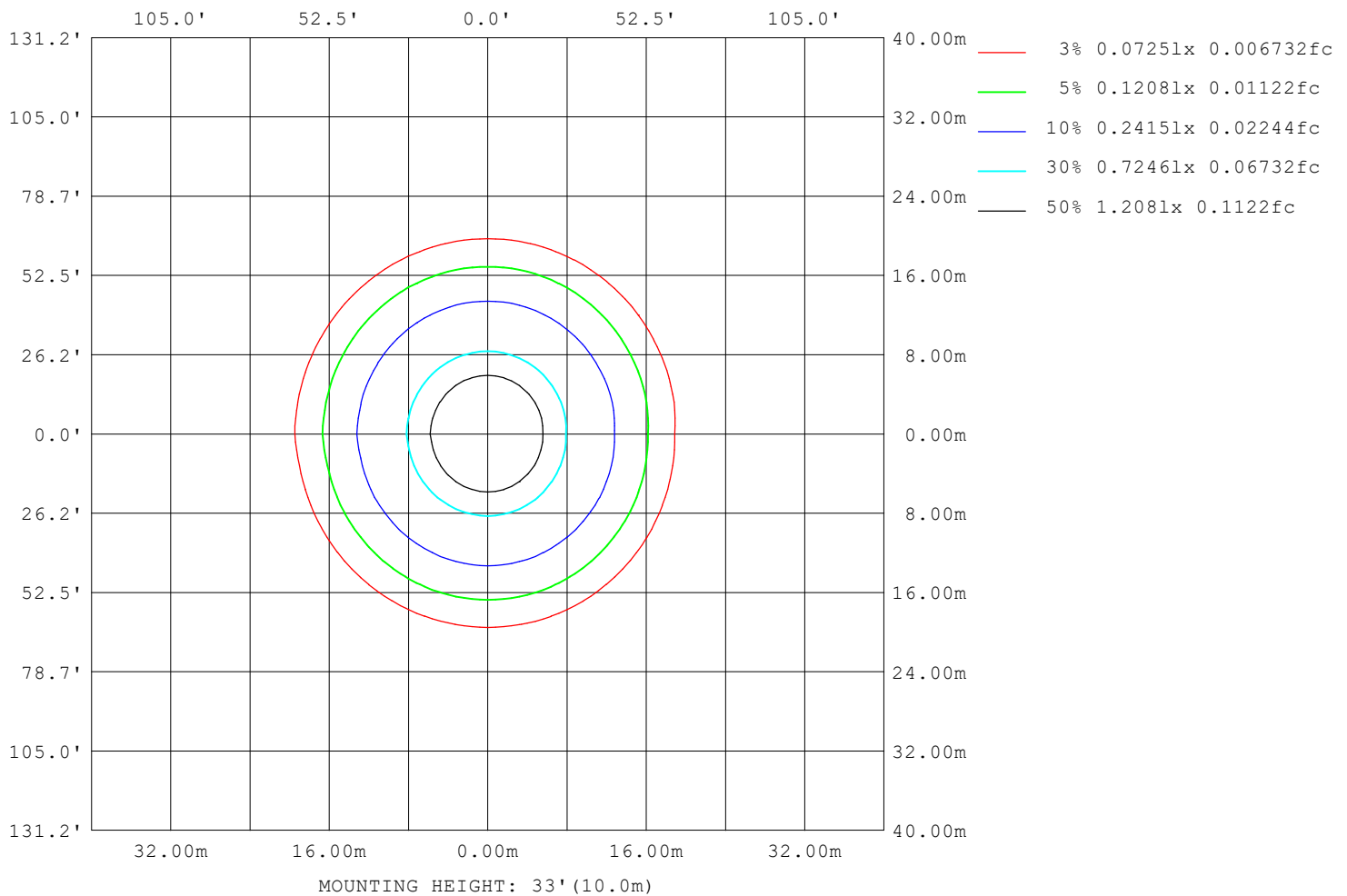
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 08 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: 93M20FFL1240/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 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: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 08 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: 93M20FFL1240/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 x 108 x 20	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:

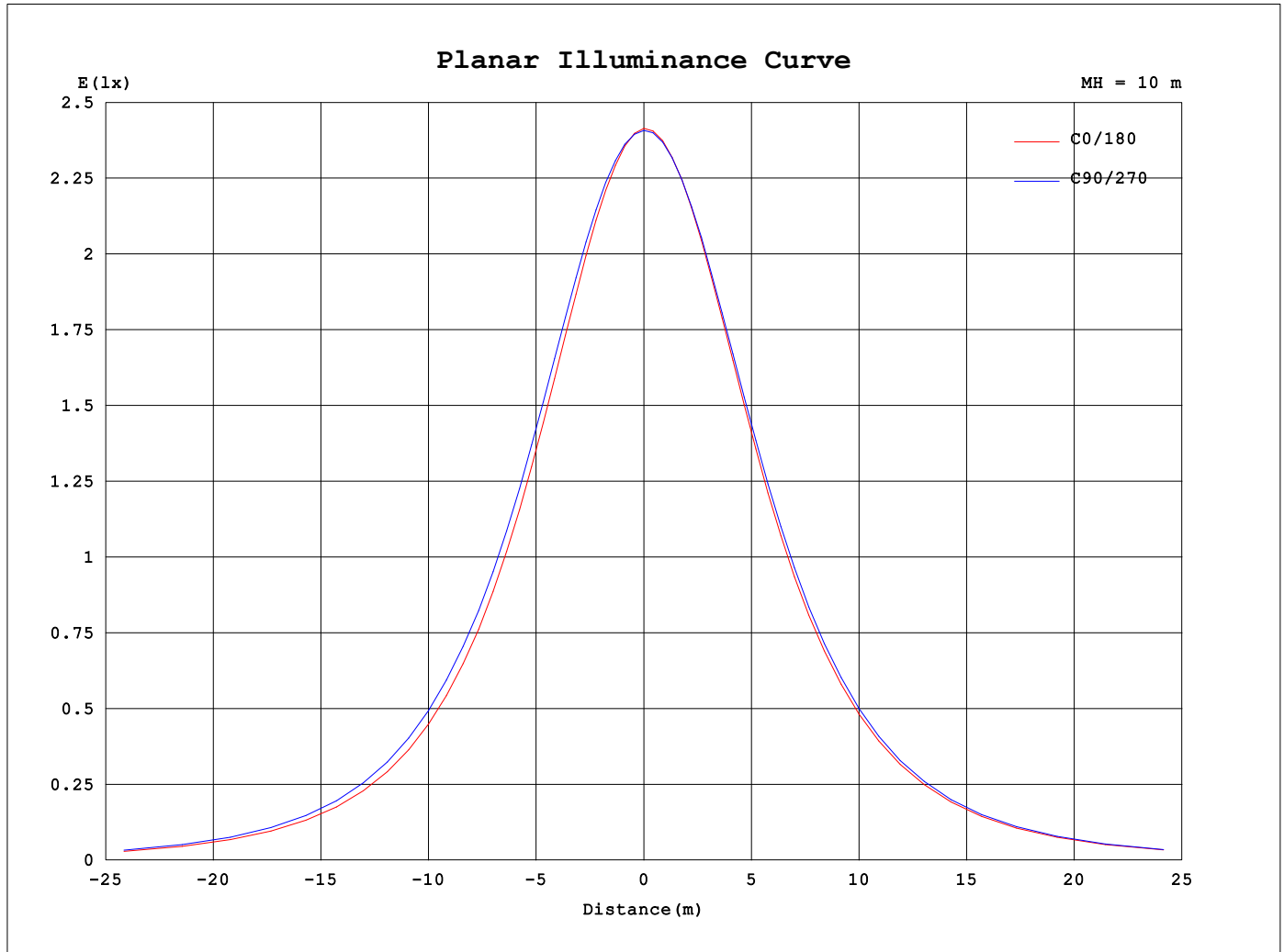
AvgL	cd/m2
L_0~180 (65) av	34855
L_0~180 (75) av	30188
L_0~180 (85) av	24826
L_90~270 (65) av	37672
L_90~270 (75) av	32045
L_90~270 (85) av	23504
L_45 (65) av	36349
L_45 (75) av	31386
L_45 (85) av	25017

Standard: GB/T 29293-2012

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

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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:

```