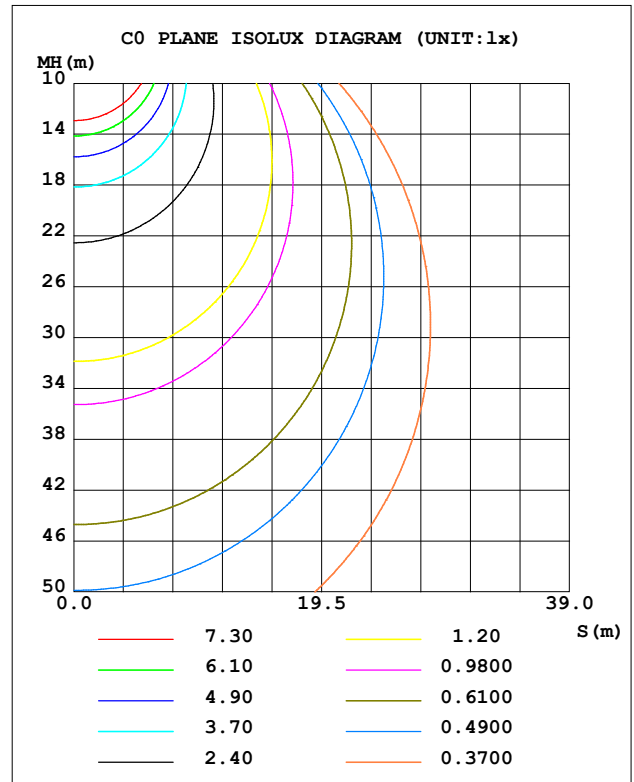
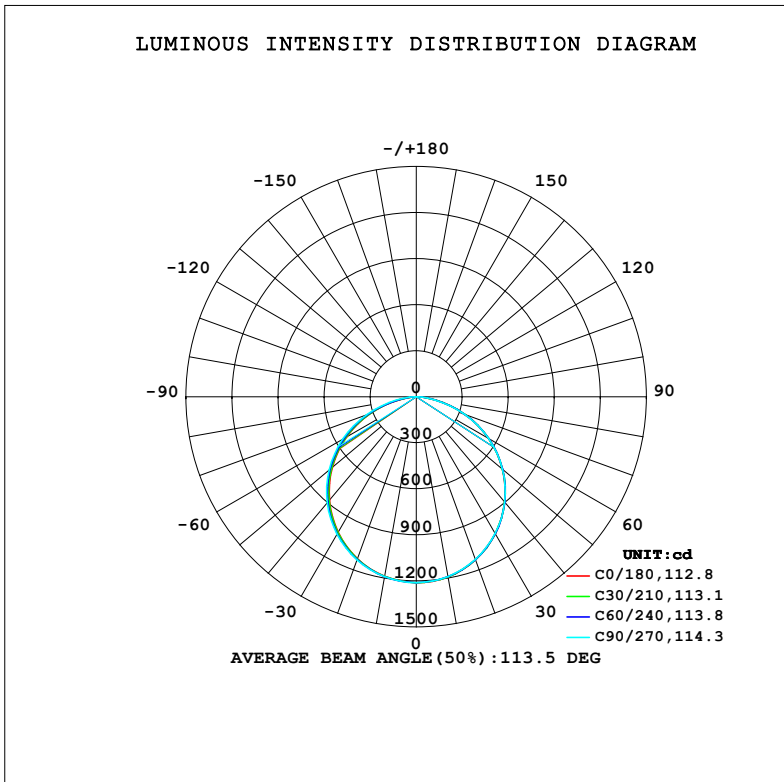


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 93FGNL6040/BL	TYPE: 93FGNL6040/BL	WEIGHT: 1
SPEC.:	DIM.: 872 x 34 x 34	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	93FGNL6040/BL	Imax (cd)	1211	S/MH (C0/180)	1.25
NOMINAL POWER (W)	60	LOR (%)	121.7	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	3467.1	$\eta$ UP, DN (C0-180)	0.0, 60.6
NOMINAL FLUX (lm)	2850	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0, 61.0
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	$\eta$ down (%)	121.7	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature: 25.3°C  
Operators:  
Test Date: 30 August 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:

### ZONAL FLUX DIAGRAM

#### ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	1192	1191	1189	1187	1188	1189	1191	1193	0- 10	114.6	114.6	3.3,4.02
20	1130	1130	1128	1124	1123	1127	1131	1134	10- 20	328.6	443.2	12.8,15.6
30	1030	1031	1029	1022	1018	1026	1034	1035	20- 30	499.0	942.2	27.2,33.1
40	895.9	897.5	896.5	885.0	880.8	890.2	902.9	903.3	30- 40	603.7	1546	44.6,54.2
50	732.6	734.6	734.2	719.5	714.6	725.2	741.6	741.4	40- 50	629.1	2175	62.7,76.3
60	544.4	545.8	545.1	528.2	523.7	534.8	553.6	553.2	50- 60	570.6	2746	79.2,96.3
70	336.9	337.2	335.3	318.0	314.8	322.1	344.2	344.2	60- 70	433.1	3179	91.7,112
80	128.0	125.8	123.9	110.8	109.4	113.1	131.8	133.2	70- 80	237.3	3416	98.5,120
90	1.981	2.011	2.078	1.996	1.665	1.708	1.778	1.966	80- 90	51.14	3467	100,122
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): 1862.6 lm

%lum = 53.7%

%lamp = 65.4%

Conical surface Flux(130deg): 2983.7 lm

%lum = 86.1%

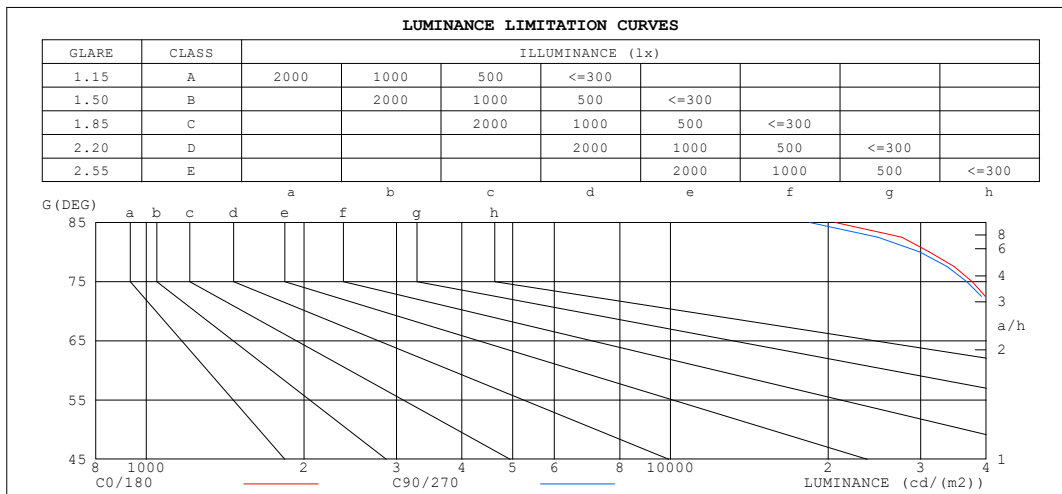
%lamp = 104.7%

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:30 August 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: 93FGNL6040/BL	TYPE: 93FGNL6040/BL	WEIGHT: 1
SPEC.:	DIM.: 872 x 34 x 34	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	20621	18411
80	31167	29898
75	37613	36758
70	41646	41077
65	44268	43834
60	46031	45678
55	47288	46956
50	48191	47864
45	48891	48535

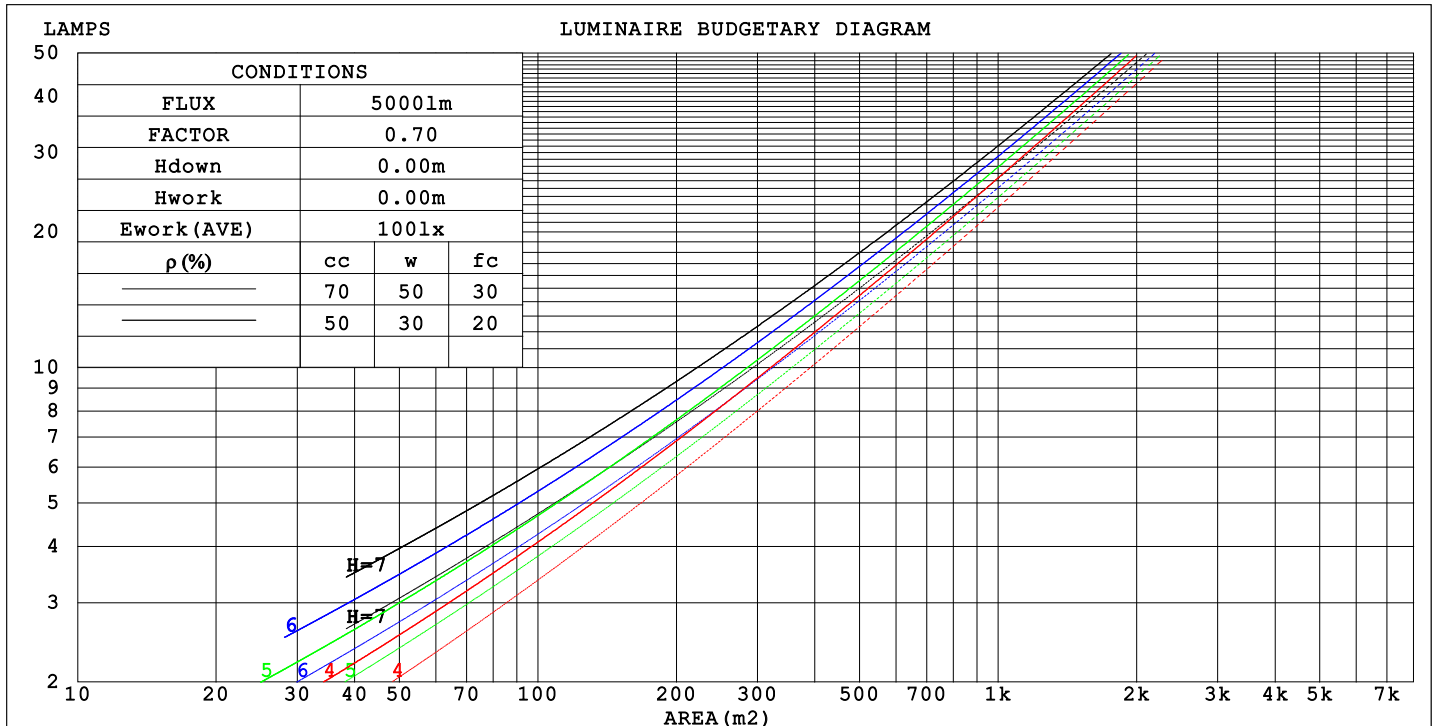
C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: MEDIUM  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 30 August 2022

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: 93FGNL6040/BL	TYPE: 93FGNL6040/BL	WEIGHT: 1
SPEC.:	DIM.: 872 x 34 x 34	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															



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:30 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: 93FGNL6040/BL	TYPE: 93FGNL6040/BL	WEIGHT: 1
SPEC.:	DIM.: 872 x 34 x 34	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	.372	.211	.067	.363	.207	.066	.347	.199	.064	.332	.192	.061	.318	.185	.060	
2.0	.352	.193	.059	.345	.190	.059	.331	.184	.057	.318	.178	.056	.305	.173	.054	
3.0	.327	.174	.052	.320	.172	.052	.308	.167	.051	.296	.162	.050	.285	.158	.049	
4.0	.302	.157	.046	.297	.155	.046	.285	.151	.045	.275	.148	.045	.265	.144	.044	
5.0	.280	.143	.041	.275	.141	.041	.265	.138	.041	.256	.135	.040	.247	.132	.040	
6.0	.260	.130	.037	.255	.129	.037	.246	.126	.037	.238	.124	.036	.230	.121	.036	
7.0	.242	.120	.034	.238	.118	.034	.230	.116	.033	.222	.114	.033	.215	.112	.033	
8.0	.226	.110	.031	.222	.109	.031	.215	.107	.031	.209	.106	.030	.202	.104	.030	
9.0	.212	.102	.029	.208	.102	.029	.202	.100	.028	.196	.098	.028	.190	.097	.028	
10.0	.199	.095	.027	.196	.095	.026	.190	.093	.026	.185	.092	.026	.180	.091	.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	.232	.232	.232	.198	.198	.198	.135	.135	.135	.078	.078	.078	.025	.025	.025	
1.0	.219	.190	.164	.187	.163	.141	.128	.112	.098	.074	.065	.057	.024	.021	.018	
2.0	.209	.160	.120	.179	.138	.103	.123	.096	.072	.071	.056	.042	.023	.018	.014	
3.0	.200	.139	.091	.171	.120	.079	.118	.083	.055	.068	.049	.032	.022	.016	.011	
4.0	.191	.123	.071	.164	.106	.062	.113	.074	.043	.065	.043	.026	.021	.014	.008	
5.0	.182	.110	.057	.156	.095	.050	.107	.067	.035	.062	.039	.021	.020	.013	.007	
6.0	.173	.100	.048	.149	.087	.041	.103	.061	.029	.060	.036	.017	.019	.012	.006	
7.0	.165	.092	.040	.142	.079	.035	.098	.056	.025	.057	.033	.015	.018	.011	.005	
8.0	.157	.085	.035	.135	.073	.030	.093	.052	.022	.054	.030	.013	.018	.010	.004	
9.0	.149	.079	.031	.129	.068	.027	.089	.048	.019	.052	.028	.011	.017	.009	.004	
10.0	.143	.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:30 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: 93FGNL6040/BL					TYPE: 93FGNL6040/BL			WEIGHT: 1			
SPEC.:					DIM.: 872 x 34 x 34			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		22.7	24.2	23.0	24.4	24.6	22.7	24.2	23.0	24.4	24.6
	3H	24.2	25.6	24.5	25.9	26.1	24.2	25.6	24.5	25.8	26.1
	4H	24.8	26.1	25.1	26.4	26.7	24.8	26.1	25.1	26.3	26.6
	6H	25.2	26.4	25.5	26.7	27.0	25.1	26.4	25.4	26.6	26.9
	8H	25.2	26.5	25.6	26.7	27.0	25.2	26.4	25.5	26.7	27.0
	12H	25.3	26.4	25.6	26.7	27.0	25.2	26.3	25.5	26.6	26.9
4H	2H	23.3	24.7	23.6	24.9	25.2	23.3	24.7	23.6	24.9	25.2
	3H	25.0	26.2	25.4	26.5	26.8	25.0	26.2	25.3	26.5	26.8
	4H	25.7	26.8	26.1	27.1	27.4	25.7	26.7	26.0	27.1	27.4
	6H	26.2	27.1	26.6	27.5	27.8	26.1	27.1	26.5	27.4	27.8
	8H	26.3	27.2	26.7	27.5	27.9	26.2	27.1	26.6	27.5	27.9
	12H	26.3	27.1	26.8	27.5	27.9	26.3	27.1	26.7	27.4	27.9
8H	4H	25.9	26.8	26.4	27.2	27.6	25.9	26.8	26.3	27.2	27.5
	6H	26.5	27.3	27.0	27.7	28.1	26.5	27.2	26.9	27.6	28.0
	8H	26.7	27.4	27.2	27.8	28.2	26.6	27.3	27.1	27.7	28.2
	12H	26.8	27.4	27.3	27.8	28.3	26.7	27.3	27.2	27.7	28.2
12H	4H	25.9	26.8	26.4	27.1	27.5	25.9	26.7	26.3	27.1	27.5
	6H	26.6	27.2	27.0	27.6	28.1	26.5	27.2	27.0	27.6	28.0
	8H	26.8	27.3	27.2	27.8	28.2	26.7	27.3	27.2	27.7	28.2
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 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 2850 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 3.6)  
Area: 0.02382 m2

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:30 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: 93FGNL6040/BL	TYPE: 93FGNL6040/BL	WEIGHT: 1
SPEC.:	DIM.: 872 x 34 x 34	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:

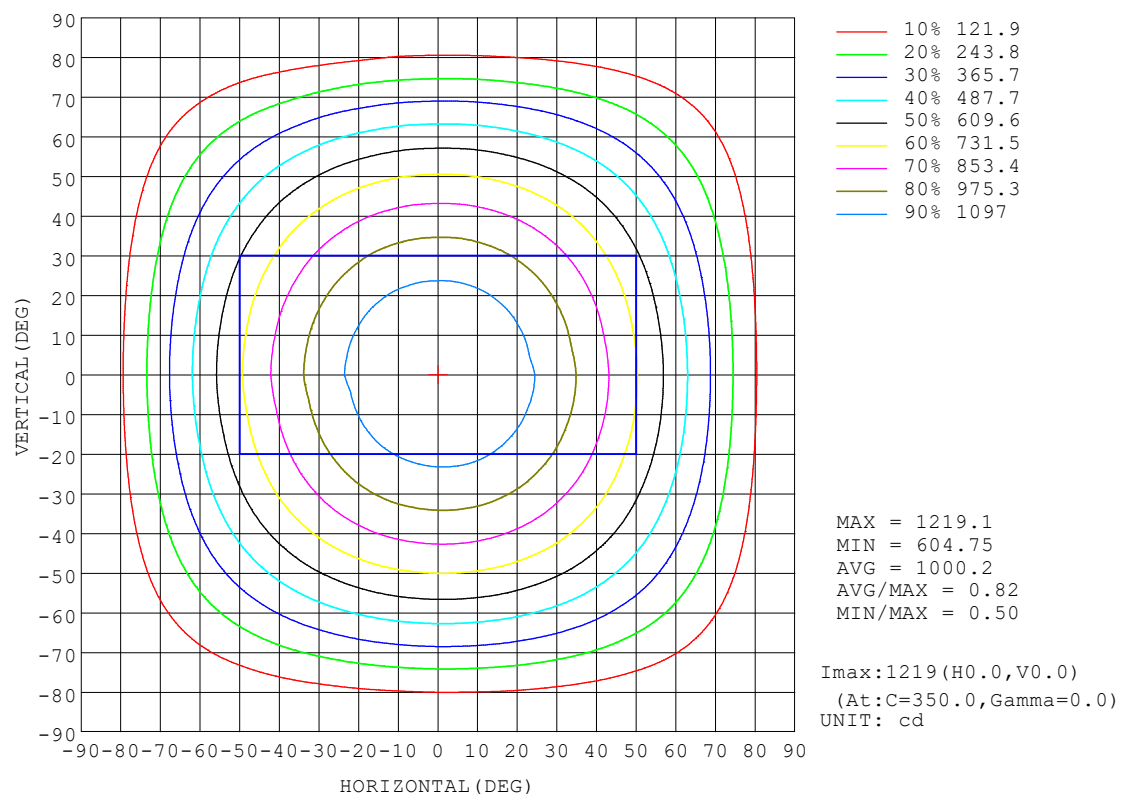
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	70	56	47	69	55	47	68	55	47	39
0.80	82	68	59	81	68	59	79	67	58	50
1.00	93	79	70	91	78	70	88	80	69	60
1.25	101	88	80	99	88	79	96	86	78	69
1.50	107	95	87	105	94	86	102	92	85	76
2.00	116	105	98	113	104	97	109	101	95	85
2.50	120	111	104	118	109	103	113	106	100	90
3.00	125	116	110	122	114	108	117	111	106	95
4.00	129	123	117	127	120	115	121	116	112	101
5.00	132	127	122	129	124	120	124	120	116	105
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: 30 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: 93FGNL6040/BL	TYPE: 93FGNL6040/BL	WEIGHT: 1
SPEC.:	DIM.: 872 x 34 x 34	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:



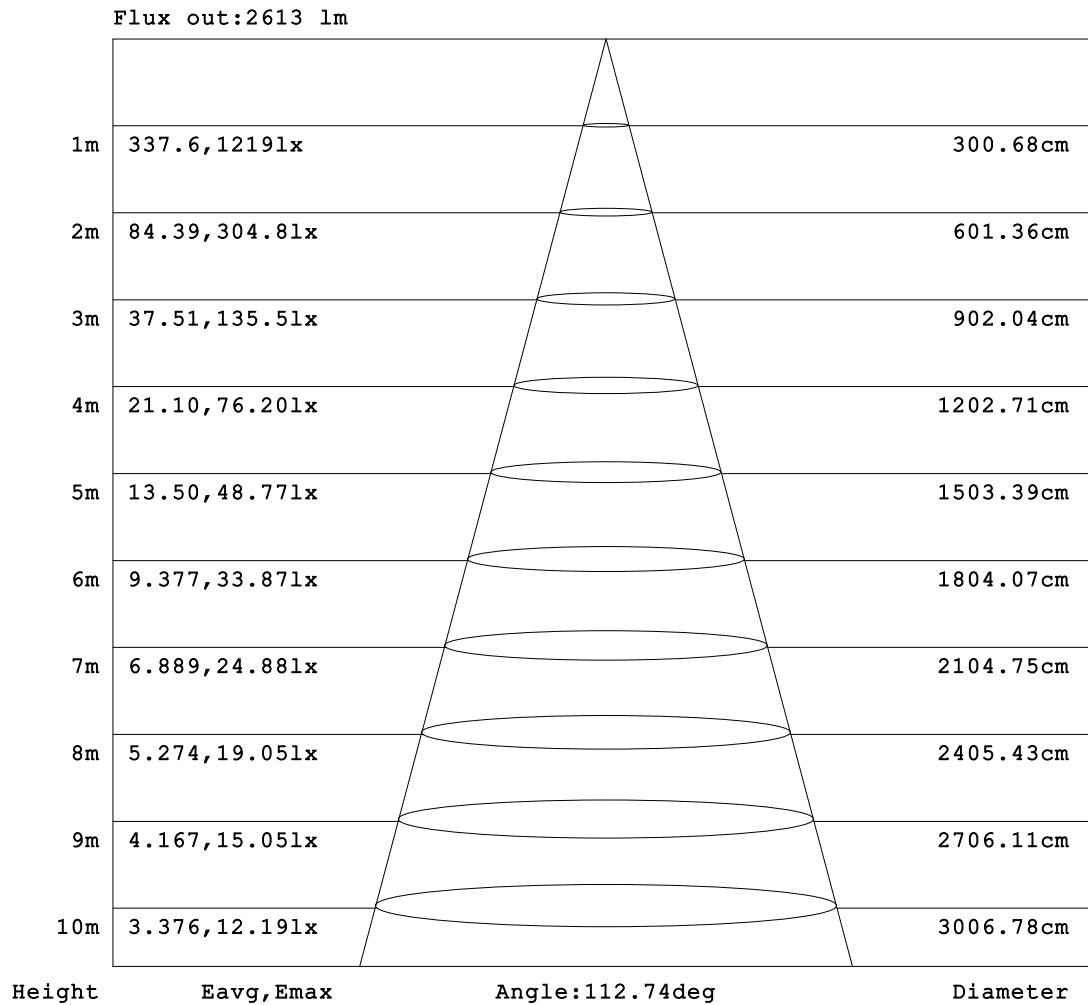
C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:30 August 2022

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: 93FGNL6040/BL	TYPE: 93FGNL6040/BL	WEIGHT: 1
SPEC.:	DIM.: 872 x 34 x 34	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:



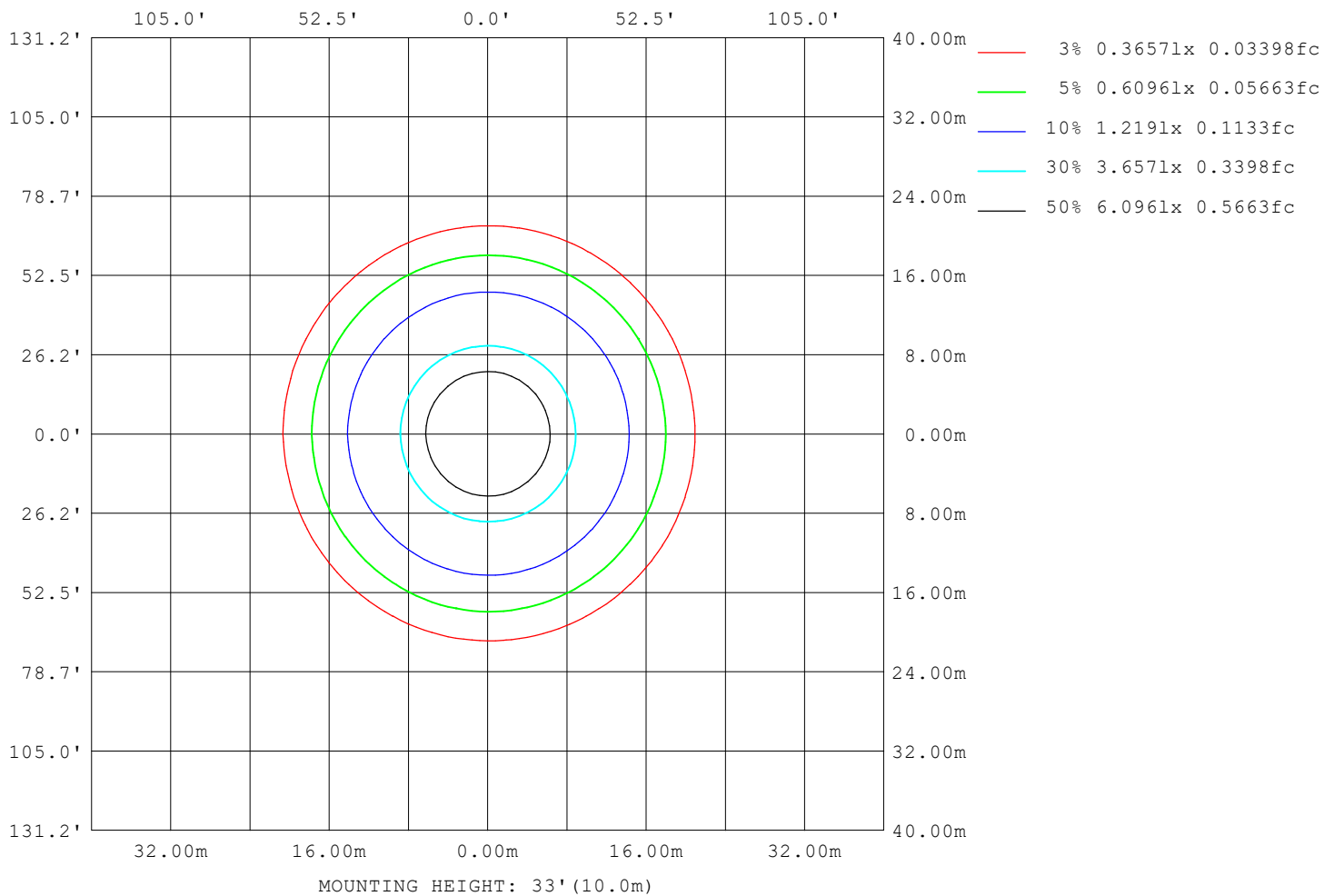
**Note:** The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: MEDIUM  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 30 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: 93FGNL6040/BL	TYPE: 93FGNL6040/BL	WEIGHT: 1
SPEC.:	DIM.: 872 x 34 x 34	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: 30 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: 93FGNL6040/BL	TYPE: 93FGNL6040/BL	WEIGHT: 1
SPEC.:	DIM.: 872 x 34 x 34	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:

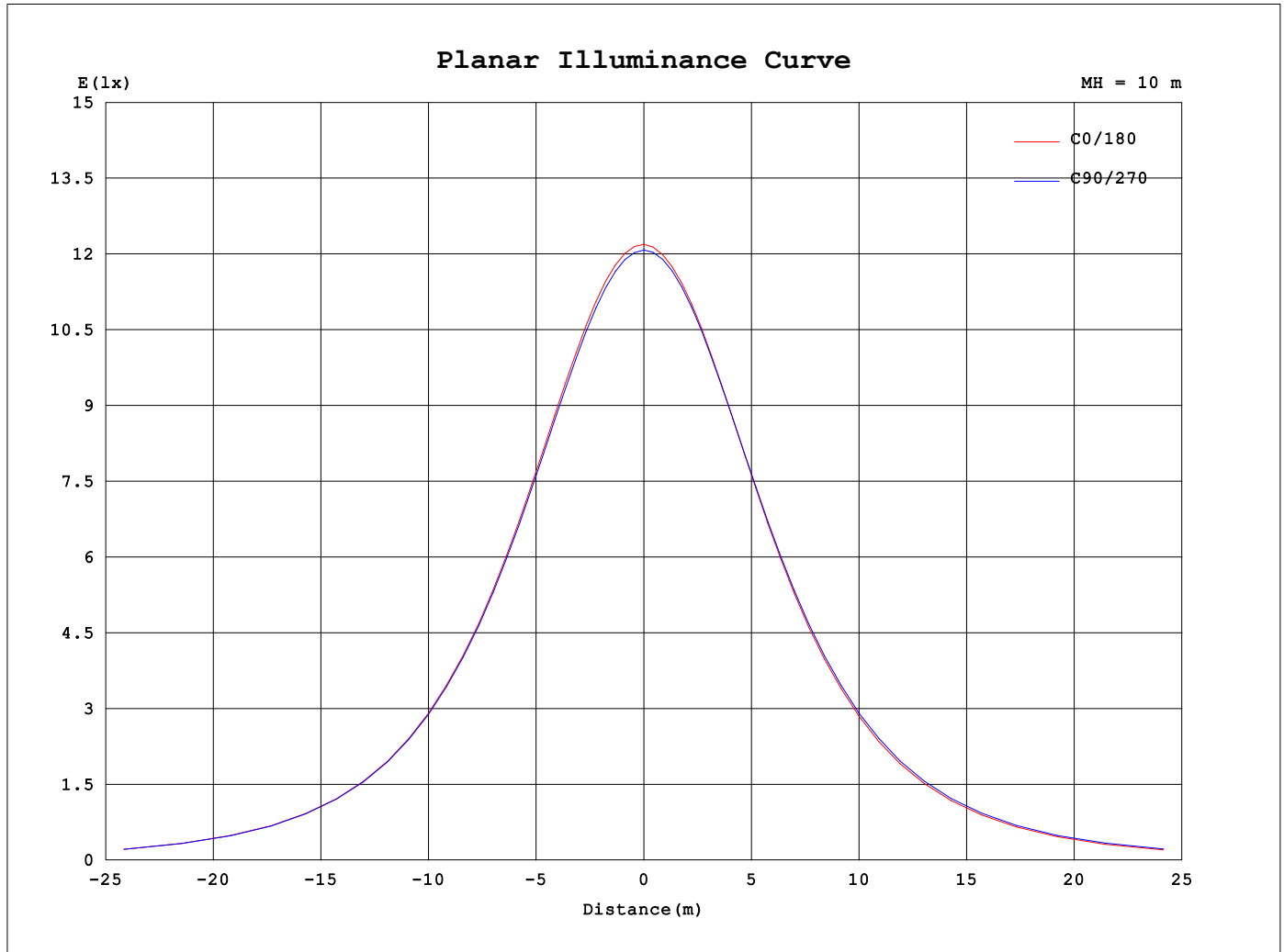
AvgL	cd/m2
L_0~180 (65) av	42874
L_0~180 (75) av	35610
L_0~180 (85) av	17463
L_90~270 (65) av	44361
L_90~270 (75) av	37550
L_90~270 (85) av	19854
L_45 (65) av	43468
L_45 (75) av	36075
L_45 (85) av	18440

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:30 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: 30 August 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:

```

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:

```