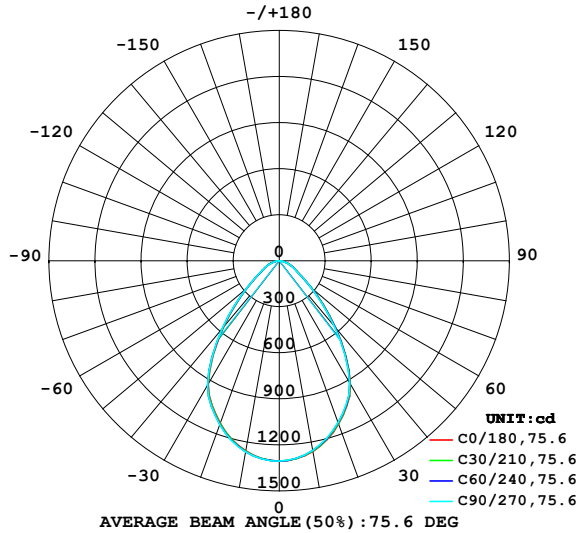


LUMINAIRE PHOTOMETRIC TEST REPORT

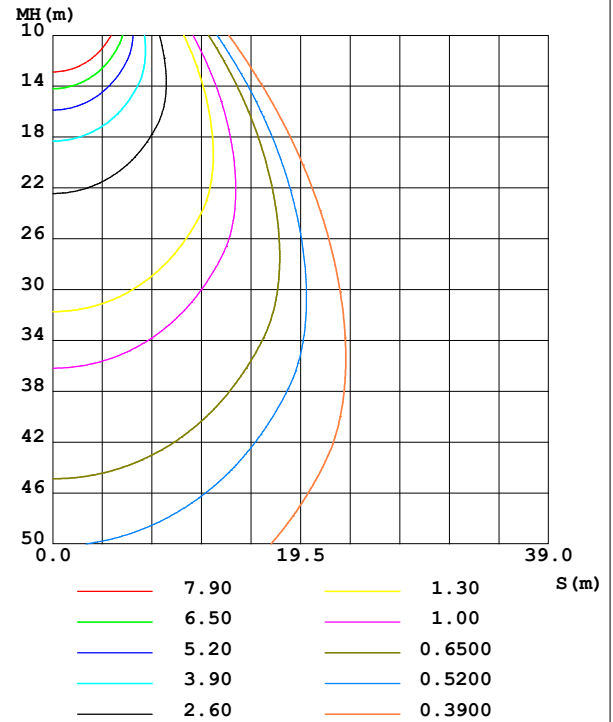
NAME: 92EL62282040/WH	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 160 x 90	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	92EL62282040/WH	Imax (cd)	1305	S/MH (C0/180)	1.09
NOMINAL POWER (W)	20	LOR (%)	113.7	S/MH (C90/270)	1.10
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	2046.8	η UP, DN (C0-180)	0.0, 56.4
NOMINAL FLUX (lm)	1800	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 57.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE (V)	230	η down (%)	113.7	CIBSE SHR MAX	1.15

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT: lx)



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 06 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:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	1261	1257	1255	1255	1258	1262	1265	1264	0- 10	122.4	122.4	5.98,6.8
20	1132	1126	1122	1122	1126	1132	1137	1136	10- 20	338.5	460.9	22.5,25.6
30	928.2	922.1	918.0	918.3	926.9	934.0	937.3	934.9	20- 30	477.1	938.0	45.8,52.1
40	576.6	570.2	563.8	561.5	568.6	575.0	581.0	582.2	30- 40	469.2	1407	68.8,78.2
50	274.3	269.8	265.6	265.1	269.9	273.9	277.2	277.5	40- 50	315.8	1723	84.2,95.7
60	128.1	127.1	125.7	126.6	127.7	128.5	127.9	129.1	50- 60	166.9	1890	92.3,105
70	73.15	69.75	65.74	69.50	72.55	71.66	69.15	72.37	60- 70	97.99	1988	97.1,110
80	28.00	23.88	20.47	23.93	26.57	25.47	23.18	26.21	70- 80	48.91	2037	99.5,113
90	0.4857	0.4731	0.4574	0.4757	0.4396	0.4364	0.4193	0.4375	80- 90	10.07	2047	100,114
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): 1587.3 lm

%lum = 77.6%

%lamp = 88.2%

Conical surface Flux(130deg): 1944.9 lm

%lum = 95.0%

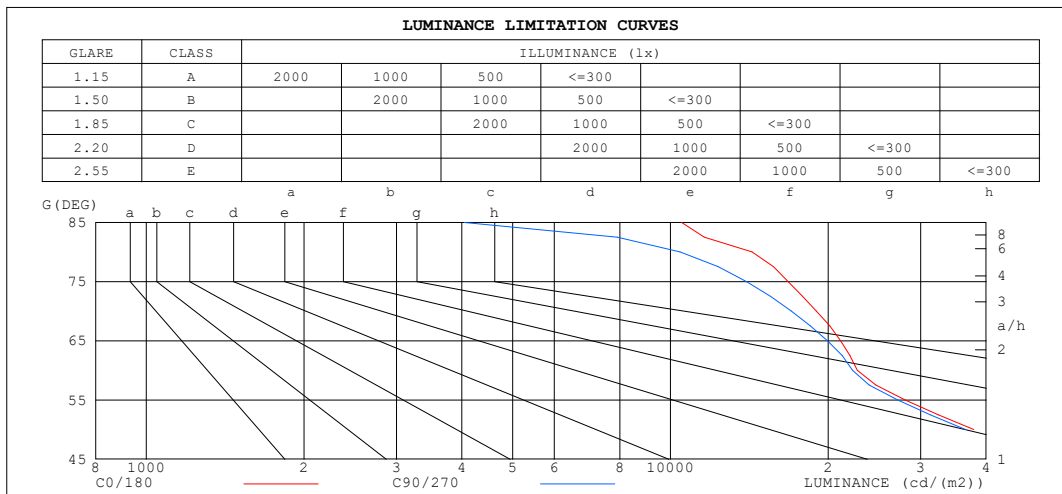
%lamp = 108.1%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:06 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:

LUMINANCE LIMITATION CURVES

NAME: 92EL62282040/WH	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 160 x 90	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	10498	4044
80	14307	10424
75	16766	13976
70	18979	16999
65	21111	19938
60	22727	22236
55	28036	27165
50	37868	36546
45	51398	49797

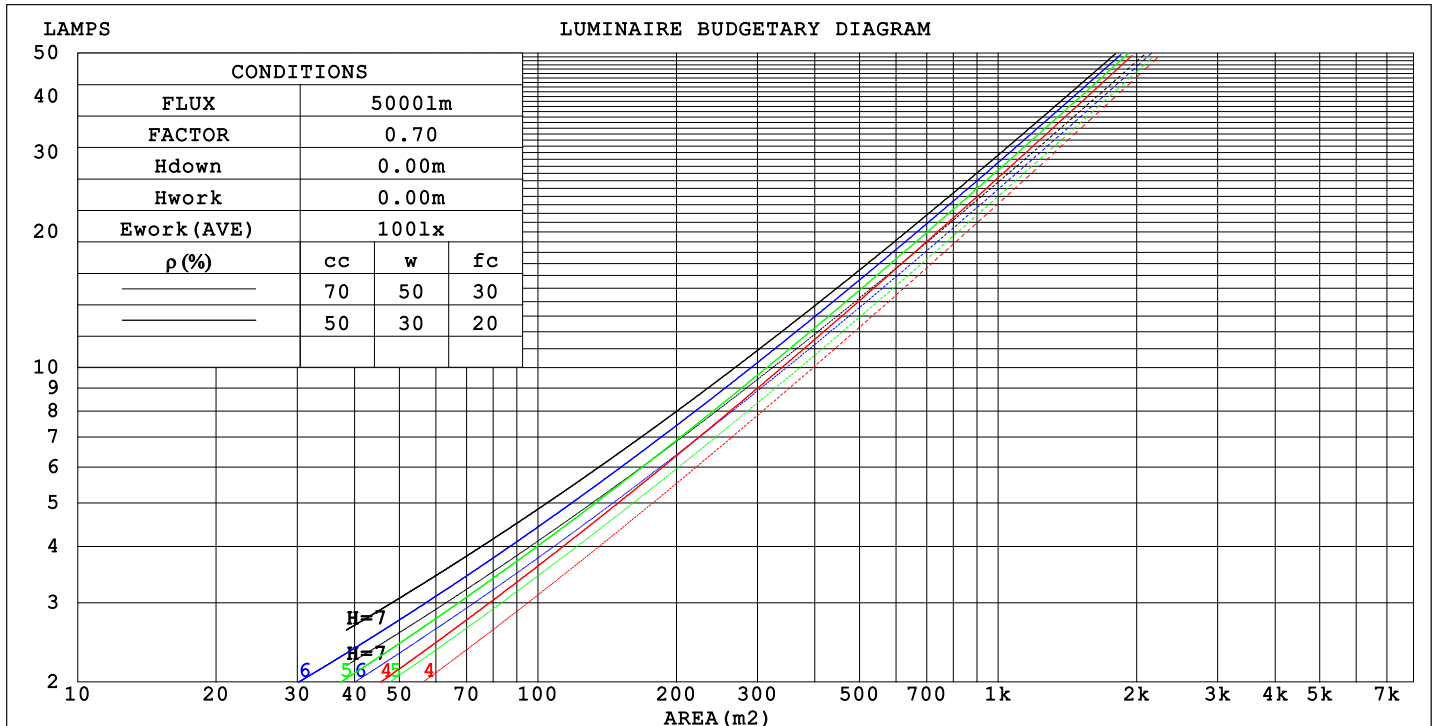
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 06 December 2022

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: 92EL62282040/WH	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 160 x 90	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:06 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: 92EL62282040/WH	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 160 x 90	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	.265	.151	.048	.258	.147	.047	.243	.139	.045	.229	.132	.042	.217	.126	.041	
2.0	.255	.140	.043	.249	.137	.042	.236	.131	.041	.224	.126	.039	.214	.121	.038	
3.0	.242	.129	.039	.236	.126	.038	.225	.122	.037	.215	.118	.036	.205	.114	.035	
4.0	.228	.118	.035	.223	.116	.034	.213	.113	.034	.204	.110	.033	.196	.106	.032	
5.0	.214	.109	.032	.210	.108	.031	.201	.105	.031	.194	.102	.030	.186	.099	.030	
6.0	.202	.101	.029	.198	.100	.029	.191	.098	.028	.184	.095	.028	.177	.093	.028	
7.0	.191	.094	.027	.188	.093	.027	.181	.091	.026	.175	.089	.026	.169	.088	.026	
8.0	.181	.088	.025	.178	.087	.025	.172	.086	.024	.166	.084	.024	.161	.082	.024	
9.0	.172	.083	.023	.169	.082	.023	.163	.081	.023	.158	.079	.023	.153	.078	.023	
10.0	.163	.078	.022	.160	.077	.022	.155	.076	.021	.151	.075	.021	.146	.074	.021	

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	.217	.217	.217	.185	.185	.185	.126	.126	.126	.073	.073	.073	.023	.023	.023	
1.0	.199	.178	.160	.170	.153	.137	.116	.105	.095	.067	.061	.055	.021	.020	.018	
2.0	.186	.150	.121	.159	.129	.104	.109	.090	.073	.063	.052	.043	.020	.017	.014	
3.0	.174	.130	.094	.150	.112	.081	.103	.078	.057	.059	.045	.034	.019	.015	.011	
4.0	.165	.114	.075	.141	.098	.065	.097	.068	.046	.056	.040	.027	.018	.013	.009	
5.0	.156	.101	.061	.134	.087	.053	.092	.061	.037	.053	.036	.022	.017	.012	.007	
6.0	.148	.091	.050	.127	.079	.044	.088	.055	.031	.051	.033	.018	.016	.011	.006	
7.0	.141	.083	.043	.121	.072	.037	.084	.050	.026	.049	.030	.016	.016	.010	.005	
8.0	.134	.076	.036	.115	.066	.032	.080	.046	.023	.046	.027	.013	.015	.009	.004	
9.0	.128	.071	.032	.110	.061	.028	.076	.043	.020	.045	.025	.012	.014	.008	.004	
10.0	.122	.066	.028	.105	.057	.024	.073	.040	.017	.043	.024	.010	.014	.008	.003	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:06 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: 92EL62282040/WH					TYPE:					WEIGHT: 1				
SPEC.:					DIM.: F 160 x 90					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					21.5	22.7	21.7	22.9	23.1	21.3	22.6	21.6	22.8	22.9
3H					22.1	23.2	22.3	23.4	23.6	21.8	23.0	22.1	23.2	23.4
4H					22.3	23.4	22.6	23.6	23.9	22.0	23.1	22.3	23.3	23.6
6H					22.5	23.5	22.8	23.7	24.0	22.1	23.1	22.4	23.4	23.6
8H					22.5	23.5	22.8	23.7	24.0	22.1	23.1	22.4	23.3	23.6
12H					22.5	23.4	22.8	23.7	24.0	22.0	23.0	22.4	23.3	23.5
4H 2H					21.6	22.7	21.9	22.9	23.2	21.5	22.6	21.8	22.8	23.0
3H					22.4	23.3	22.7	23.6	23.9	22.2	23.1	22.5	23.4	23.7
4H					22.7	23.6	23.1	23.9	24.2	22.4	23.3	22.8	23.6	23.9
6H					23.0	23.8	23.4	24.1	24.4	22.6	23.3	23.0	23.7	24.0
8H					23.1	23.8	23.5	24.1	24.5	22.6	23.3	23.0	23.7	24.0
12H					23.1	23.7	23.5	24.1	24.5	22.6	23.2	23.0	23.6	24.0
8H 4H					22.8	23.5	23.2	23.9	24.2	22.5	23.2	22.9	23.6	23.9
6H					23.2	23.7	23.6	24.1	24.5	22.7	23.3	23.2	23.7	24.1
8H					23.3	23.8	23.7	24.2	24.6	22.8	23.3	23.2	23.7	24.1
12H					23.3	23.8	23.8	24.2	24.7	22.8	23.2	23.2	23.6	24.1
12H 4H					22.8	23.4	23.2	23.8	24.2	22.5	23.1	22.9	23.5	23.9
6H					23.1	23.6	23.6	24.1	24.5	22.7	23.2	23.2	23.7	24.1
8H					23.3	23.7	23.8	24.2	24.6	22.8	23.2	23.3	23.7	24.1
Variations with the observer position at spacings(CIE Pub.117):														
S = 1.0H					+ 0.8 / - 1.0					+ 0.9 / - 1.2				
1.5H					+ 1.0 / - 1.0					+ 1.1 / - 1.1				
2.0H					+ 1.8 / - 1.0					+ 1.9 / - 1.0				

CIE Pub.117, 1800 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.0)
Area: 0.011304 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:06 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: 92EL62282040/WH	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 160 x 90	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:

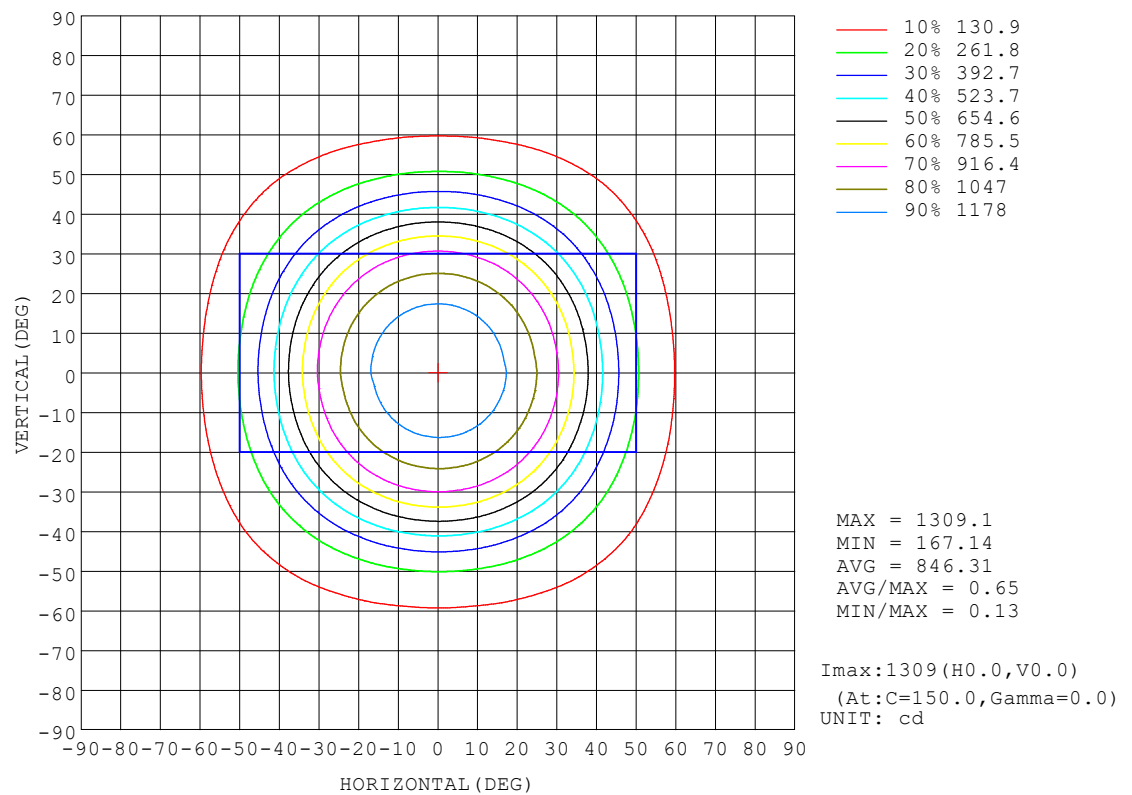
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	82	72	65	81	71	65	80	71	65	59
0.80	92	82	76	91	82	76	90	81	76	70
1.00	100	91	85	99	90	84	97	91	84	78
1.25	107	98	92	105	97	92	103	96	91	84
1.50	111	103	97	110	102	97	107	100	96	89
2.00	117	110	105	115	108	104	111	106	102	95
2.50	120	113	108	118	112	107	114	109	105	97
3.00	122	117	112	120	115	111	116	112	109	100
4.00	126	121	117	123	119	116	119	115	113	104
5.00	128	124	120	125	121	119	120	117	115	106
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: 06 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: 92EL62282040/WH	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 160 x 90	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:

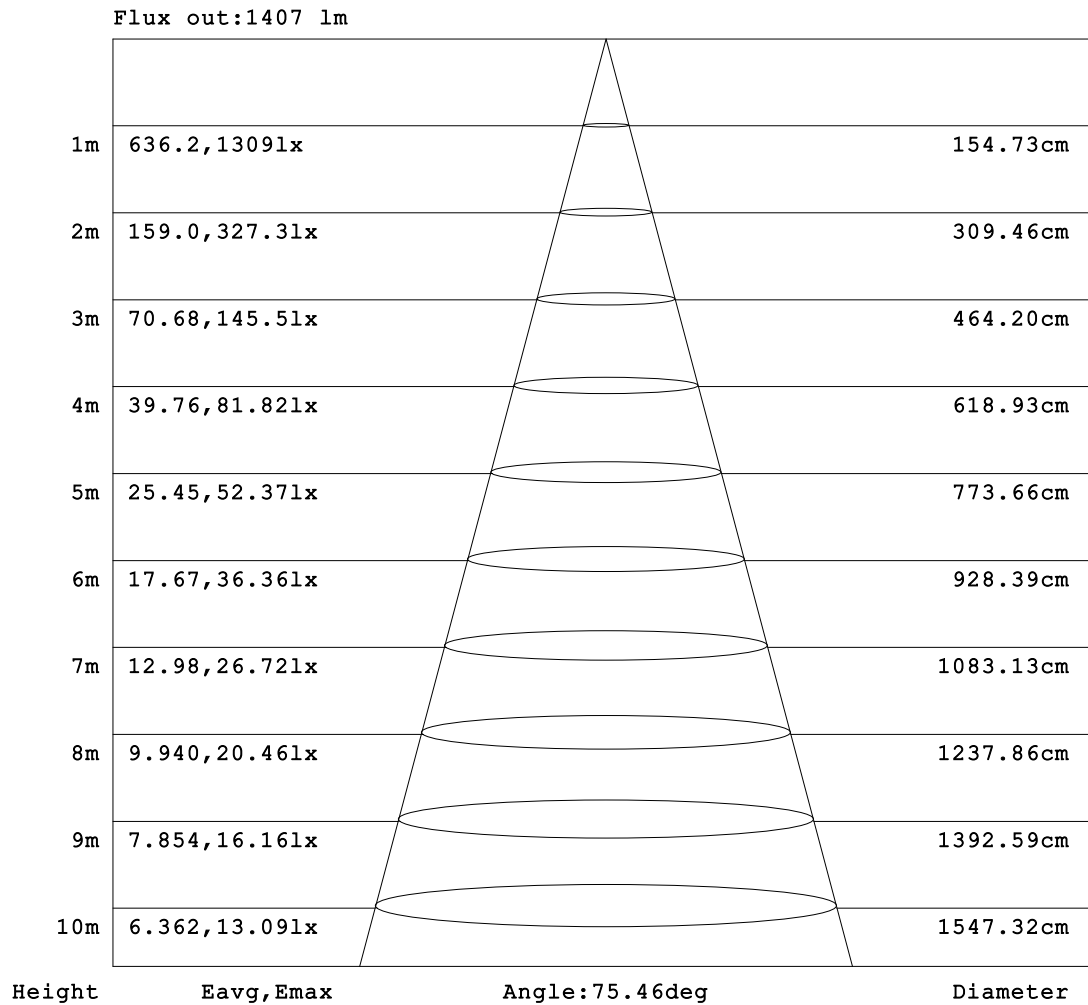


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:06 December 2022

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: 92EL62282040/WH	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 160 x 90	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:



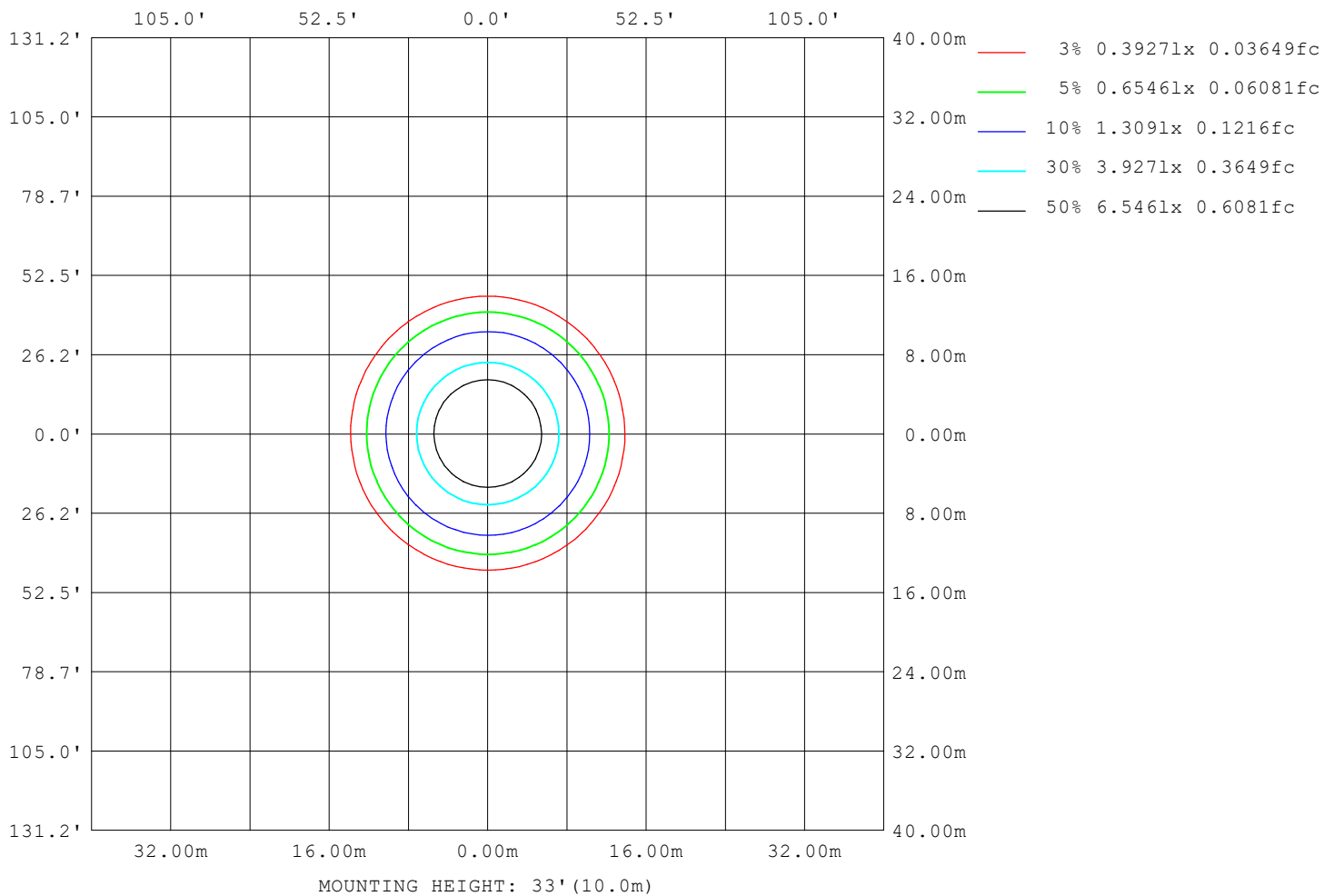
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 06 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: 92EL62282040/WH	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 160 x 90	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: 06 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: 92EL62282040/WH	TYPE:	WEIGHT: 1
SPEC.:	DIM.: F 160 x 90	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: Round	Shielding Angle:

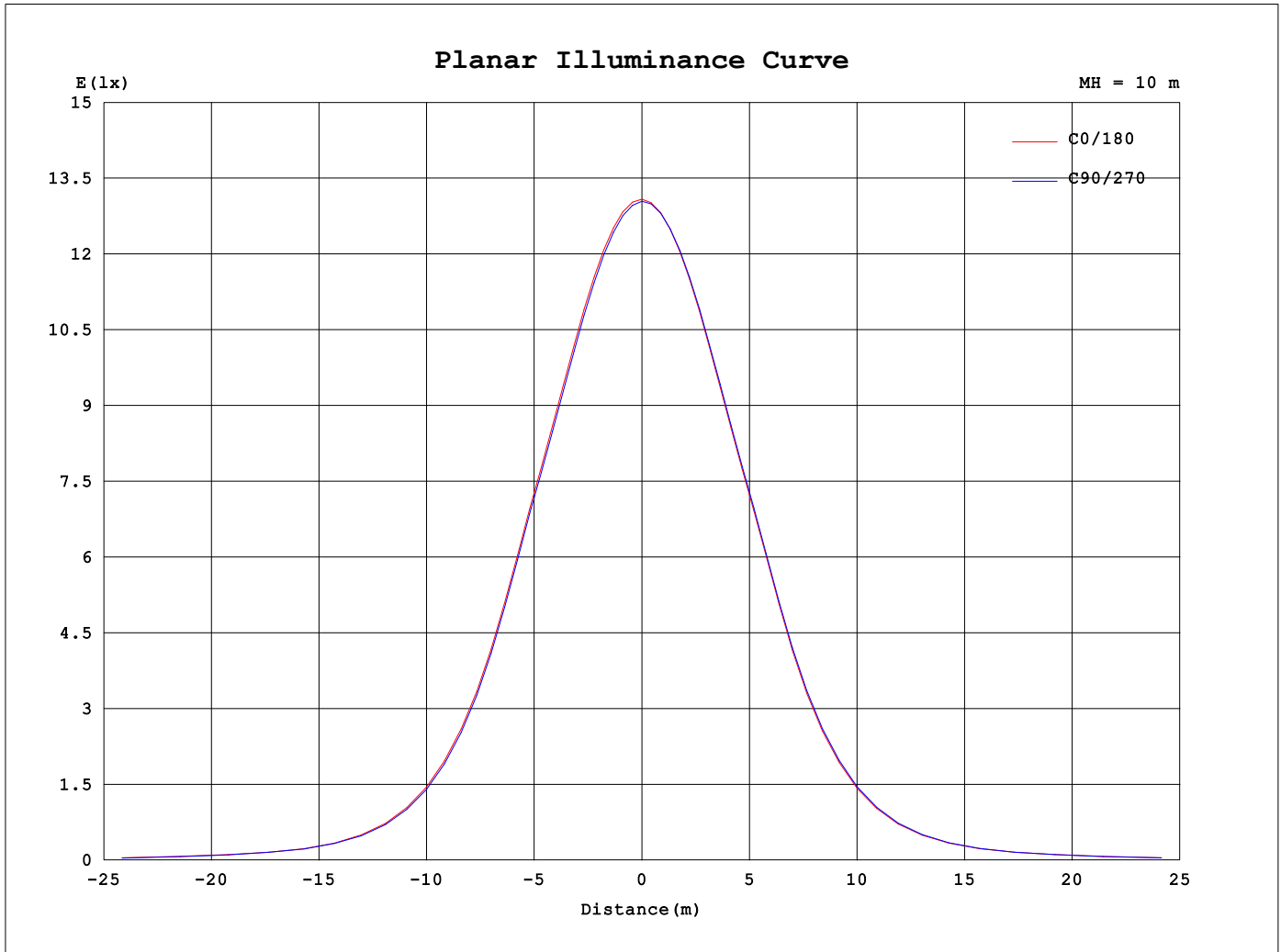
AvgL	cd/m2
L_0~180 (65) av	21019
L_0~180 (75) av	16630
L_0~180 (85) av	10082
L_90~270 (65) av	20263
L_90~270 (75) av	14509
L_90~270 (85) av	5141
L_45 (65) av	20822
L_45 (75) av	15628
L_45 (85) av	7933

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:06 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: 06 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:

```

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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:

```