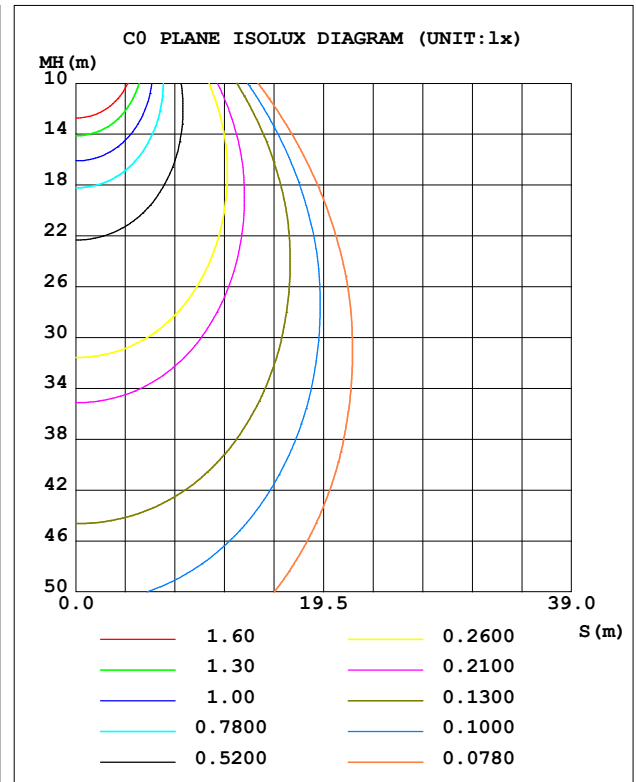
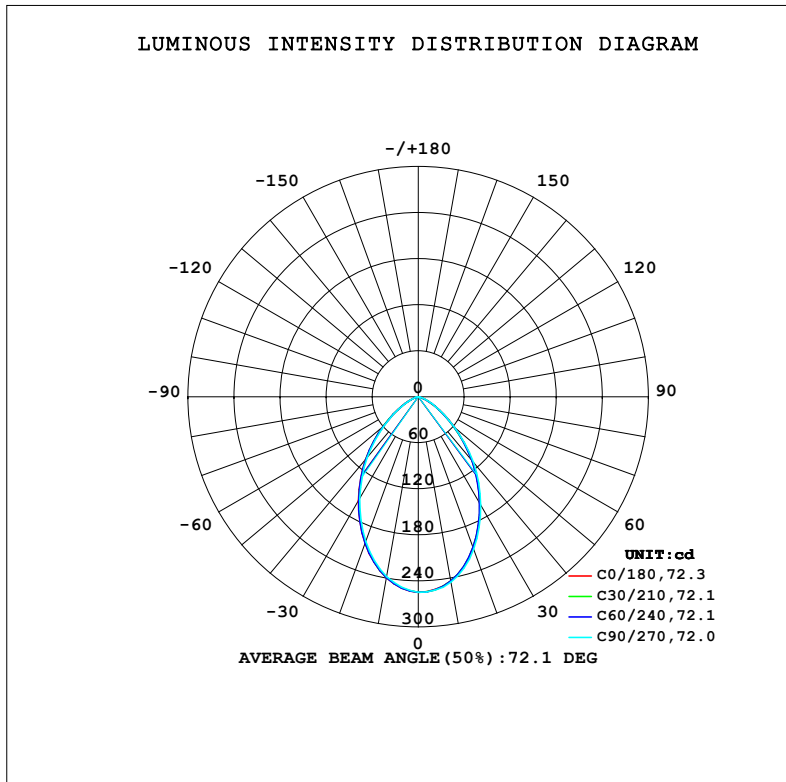


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 95Livial80/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 x 180	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	95Livial80/BL	Imax(cd)	255.0	S/MH(C0/180)	0.98
NOMINAL POWER(W)	15	LOR(%)	24.2	S/MH(C90/270)	0.96
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	373.40	η UP,DN(C0-180)	0.0,12.3
NOMINAL FLUX(lm)	1545	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,11.8
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	230	η down (%)	24.2	CIBSE SHR MAX	1.10



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 30 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	243.8	243.7	245.2	245.7	239.5	239.4	238.1	237.8	0- 10	23.68	23.68	6.34,1.53
20	209.2	208.2	211.4	212.7	203.0	202.9	200.5	200.2	10- 20	63.36	87.04	23.3,5.63
30	160.6	159.7	162.9	165.0	156.0	155.5	152.6	151.6	20- 30	83.82	170.9	45.8,11.1
40	109.9	109.2	112.4	113.8	107.4	106.9	104.0	103.1	30- 40	82.90	253.8	68,16.4
50	60.92	59.86	61.89	62.34	58.80	59.20	56.87	56.48	40- 50	63.98	317.7	85.1,20.6
60	26.13	25.47	26.74	26.82	25.10	25.47	24.25	24.20	50- 60	36.59	354.3	94.9,22.9
70	7.665	7.406	8.068	8.231	7.594	7.817	7.329	7.161	60- 70	15.26	369.6	99,23.9
80	0.3439	0.3514	0.5321	0.7821	0.7256	0.7343	0.6004	0.3645	70- 80	3.685	373.3	100,24.2
90	0.0428	0.0406	0.0382	0.0383	0.0348	0.0325	0.0355	0.0329	80- 90	0.1267	373.4	100,24.2
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): 289.09 lm

%lum = 77.4%

%lamp = 18.7%

Conical surface Flux(130deg): 364 lm

%lum = 97.5%

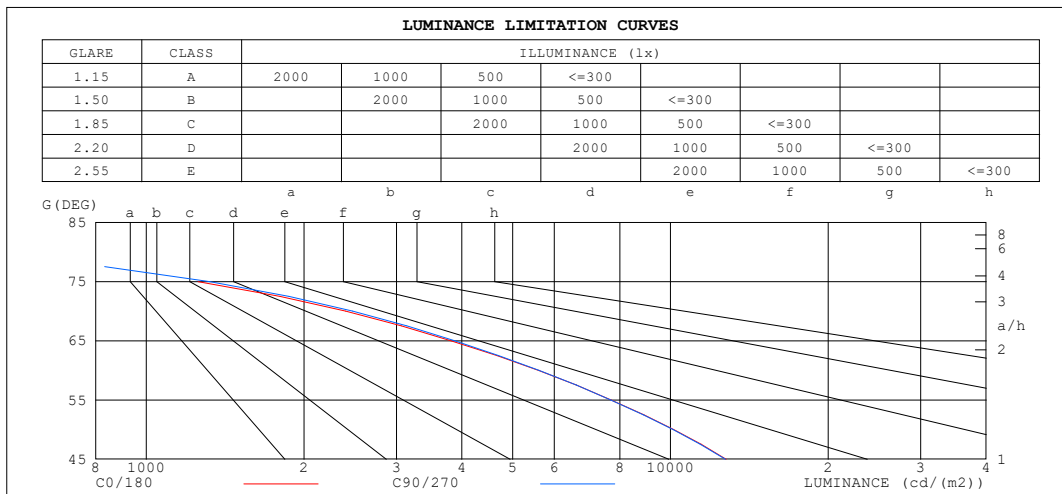
%lamp = 23.6%

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature:25.3°C
 Operators:
 Test Date:30 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: 95Livia180/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 x 180	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	89	59
80	212	321
75	1254	1323
70	2398	2475
65	3819	3879
60	5593	5610
55	7710	7700
50	10144	10102
45	12769	12738

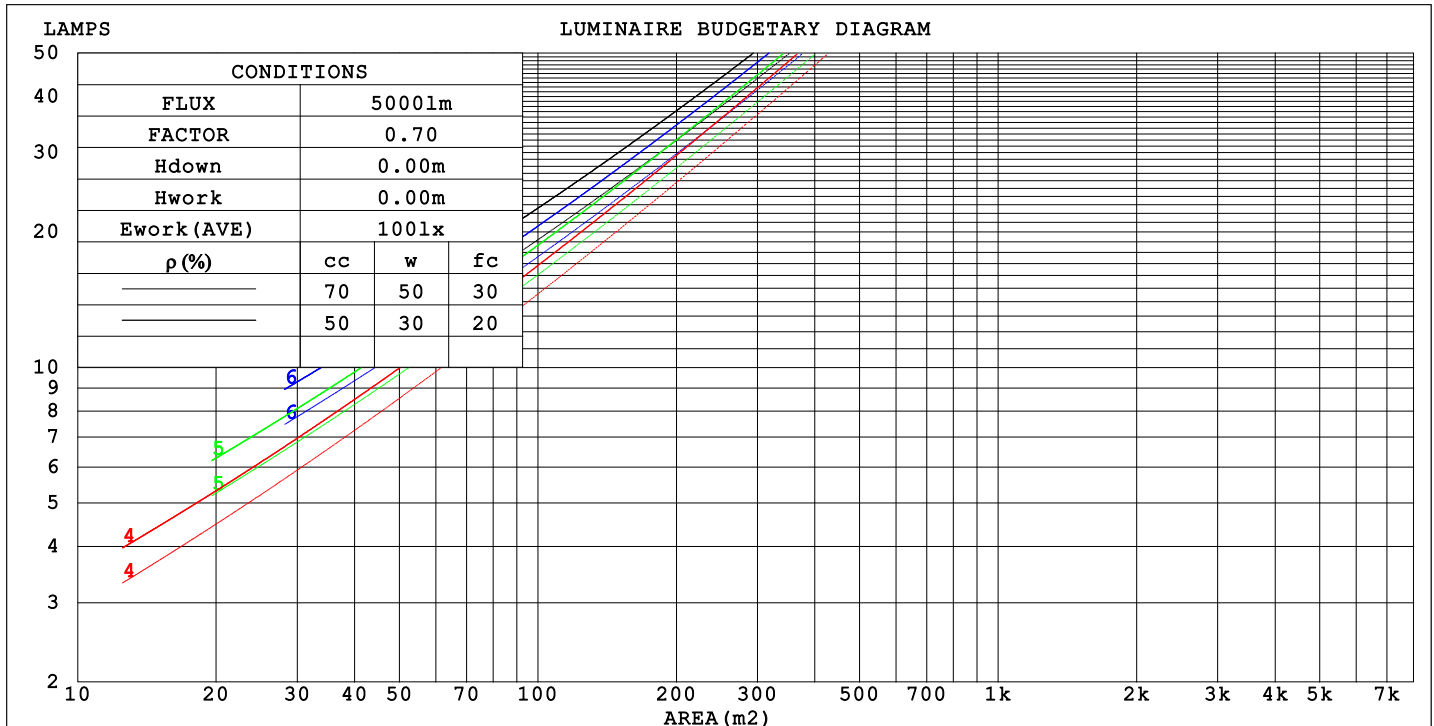
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 30 December 2022

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: 95Livial80/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 x 180	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	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 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: 95Livial80/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 x 180	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	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	.054	.030	.010	.052	.030	.009	.049	.028	.009	.046	.027	.009	.043	.025	.008	
2.0	.052	.029	.009	.051	.028	.009	.048	.027	.008	.046	.026	.008	.044	.025	.008	
3.0	.050	.027	.008	.049	.026	.008	.047	.025	.008	.044	.024	.007	.042	.024	.007	
4.0	.048	.025	.007	.047	.024	.007	.044	.024	.007	.043	.023	.007	.041	.022	.007	
5.0	.045	.023	.007	.044	.023	.007	.042	.022	.006	.041	.021	.006	.039	.021	.006	
6.0	.043	.021	.006	.042	.021	.006	.040	.021	.006	.039	.020	.006	.037	.020	.006	
7.0	.040	.020	.006	.040	.020	.006	.038	.019	.006	.037	.019	.005	.036	.018	.005	
8.0	.038	.019	.005	.038	.018	.005	.036	.018	.005	.035	.018	.005	.034	.017	.005	
9.0	.036	.018	.005	.036	.017	.005	.035	.017	.005	.033	.017	.005	.032	.016	.005	
10.0	.034	.017	.005	.034	.016	.005	.033	.016	.005	.032	.016	.005	.031	.016	.004	

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	.046	.046	.046	.039	.039	.039	.027	.027	.027	.015	.015	.015	.005	.005	.005	
1.0	.042	.038	.034	.036	.033	.029	.025	.022	.020	.014	.013	.012	.005	.004	.004	
2.0	.039	.032	.026	.034	.028	.022	.023	.019	.016	.013	.011	.009	.004	.004	.003	
3.0	.037	.028	.020	.032	.024	.017	.022	.016	.012	.013	.010	.007	.004	.003	.002	
4.0	.035	.024	.016	.030	.021	.014	.021	.015	.010	.012	.009	.006	.004	.003	.002	
5.0	.033	.021	.013	.028	.019	.011	.020	.013	.008	.011	.008	.005	.004	.002	.002	
6.0	.031	.019	.011	.027	.017	.009	.019	.012	.007	.011	.007	.004	.003	.002	.001	
7.0	.030	.018	.009	.026	.015	.008	.018	.011	.006	.010	.006	.003	.003	.002	.001	
8.0	.028	.016	.008	.024	.014	.007	.017	.010	.005	.010	.006	.003	.003	.002	.001	
9.0	.027	.015	.007	.023	.013	.006	.016	.009	.004	.009	.005	.003	.003	.002	.001	
10.0	.026	.014	.006	.022	.012	.005	.016	.009	.004	.009	.005	.002	.003	.002	.001	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:30 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: 95Livial80/BL					TYPE:			WEIGHT: 1			
SPEC.:					DIM.: 220 x 180			SERIAL No.: 0			
MFR.: Elmark Industries JSC					SUR.: cilinder			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	17.5	18.7	17.7	18.9	19.1	17.5	18.7	17.7	18.9	19.0
	3H	17.6	18.7	17.9	18.9	19.1	17.6	18.7	17.8	18.9	19.1
	4H	17.5	18.6	17.8	18.8	19.1	17.5	18.6	17.8	18.8	19.1
	6H	17.4	18.4	17.8	18.7	19.0	17.4	18.4	17.8	18.7	18.9
	8H	17.4	18.3	17.7	18.6	18.9	17.4	18.3	17.7	18.6	18.9
	12H	17.3	18.3	17.7	18.5	18.8	17.3	18.3	17.7	18.5	18.8
4H	2H	17.5	18.6	17.8	18.8	19.0	17.5	18.5	17.8	18.8	19.0
	3H	17.7	18.6	18.0	18.9	19.1	17.7	18.6	18.0	18.8	19.1
	4H	17.6	18.5	18.0	18.8	19.1	17.6	18.4	18.0	18.8	19.1
	6H	17.5	18.3	17.9	18.6	19.0	17.5	18.3	17.9	18.6	19.0
	8H	17.5	18.2	17.9	18.5	18.9	17.5	18.2	17.9	18.5	18.9
	12H	17.5	18.1	17.9	18.4	18.8	17.5	18.1	17.9	18.4	18.8
8H	4H	17.5	18.2	17.9	18.5	18.9	17.5	18.2	17.9	18.5	18.9
	6H	17.4	18.0	17.9	18.4	18.8	17.4	18.0	17.9	18.4	18.8
	8H	17.4	17.9	17.8	18.3	18.7	17.4	17.9	17.8	18.3	18.7
	12H	17.4	17.8	17.8	18.2	18.7	17.3	17.8	17.8	18.2	18.7
12H	4H	17.5	18.1	17.9	18.5	18.9	17.5	18.1	17.9	18.5	18.9
	6H	17.4	17.9	17.8	18.3	18.7	17.4	17.9	17.8	18.3	18.7
	8H	17.4	17.8	17.8	18.2	18.7	17.3	17.8	17.8	18.2	18.7
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H		+ 1.1 / - 1.8					+ 1.1 / - 1.7				
1.5H		+ 0.8 / - 1.1					+ 0.8 / - 1.1				
2.0H		+ 2.5 / - 3.0					+ 2.4 / - 3.0				

CIE Pub.117, 1545 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.5)
Area: 0.0094985 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:30 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: 95Livial80/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 x 180	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:

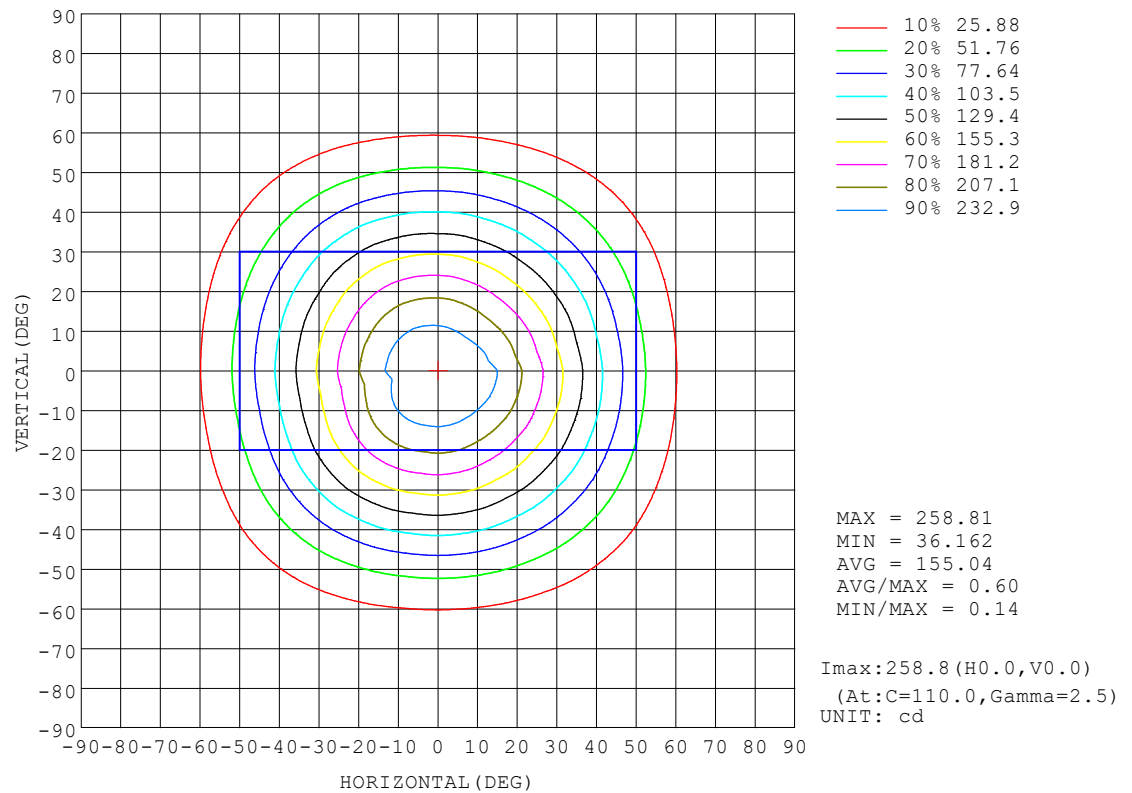
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	17	15	14	17	15	14	17	15	14	12
0.80	20	17	16	19	17	16	19	17	16	15
1.00	21	19	18	21	19	18	21	19	18	17
1.25	23	21	20	22	21	20	22	20	19	18
1.50	24	22	21	23	22	21	23	21	20	19
2.00	25	23	22	25	23	22	24	23	22	20
2.50	26	24	23	25	24	23	24	23	23	21
3.00	26	25	24	26	25	24	25	24	23	22
4.00	27	26	25	26	25	25	25	25	24	22
5.00	27	26	26	27	26	25	26	25	25	23
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 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: 95Livia180/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 x 180	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:

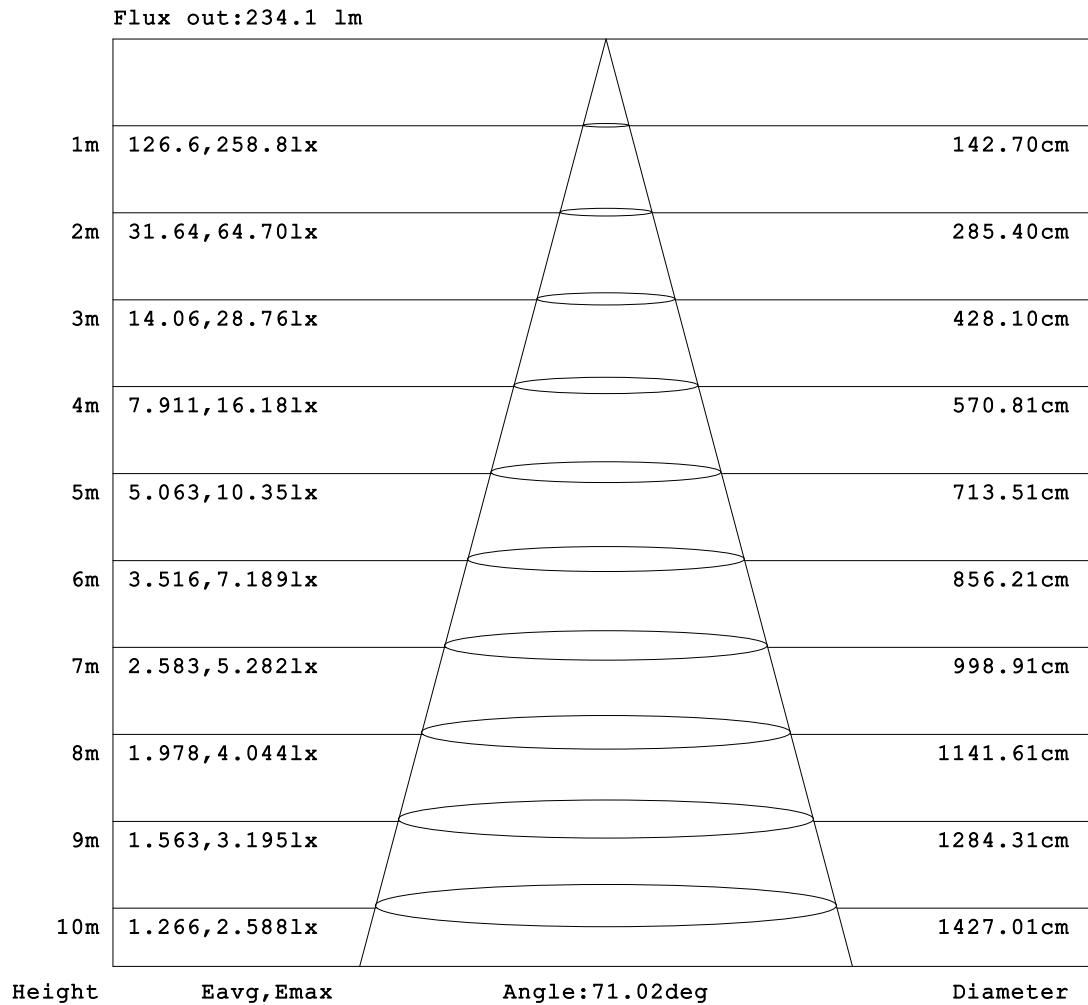


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 30 December 2022

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: 95Livia180/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 x 180	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:



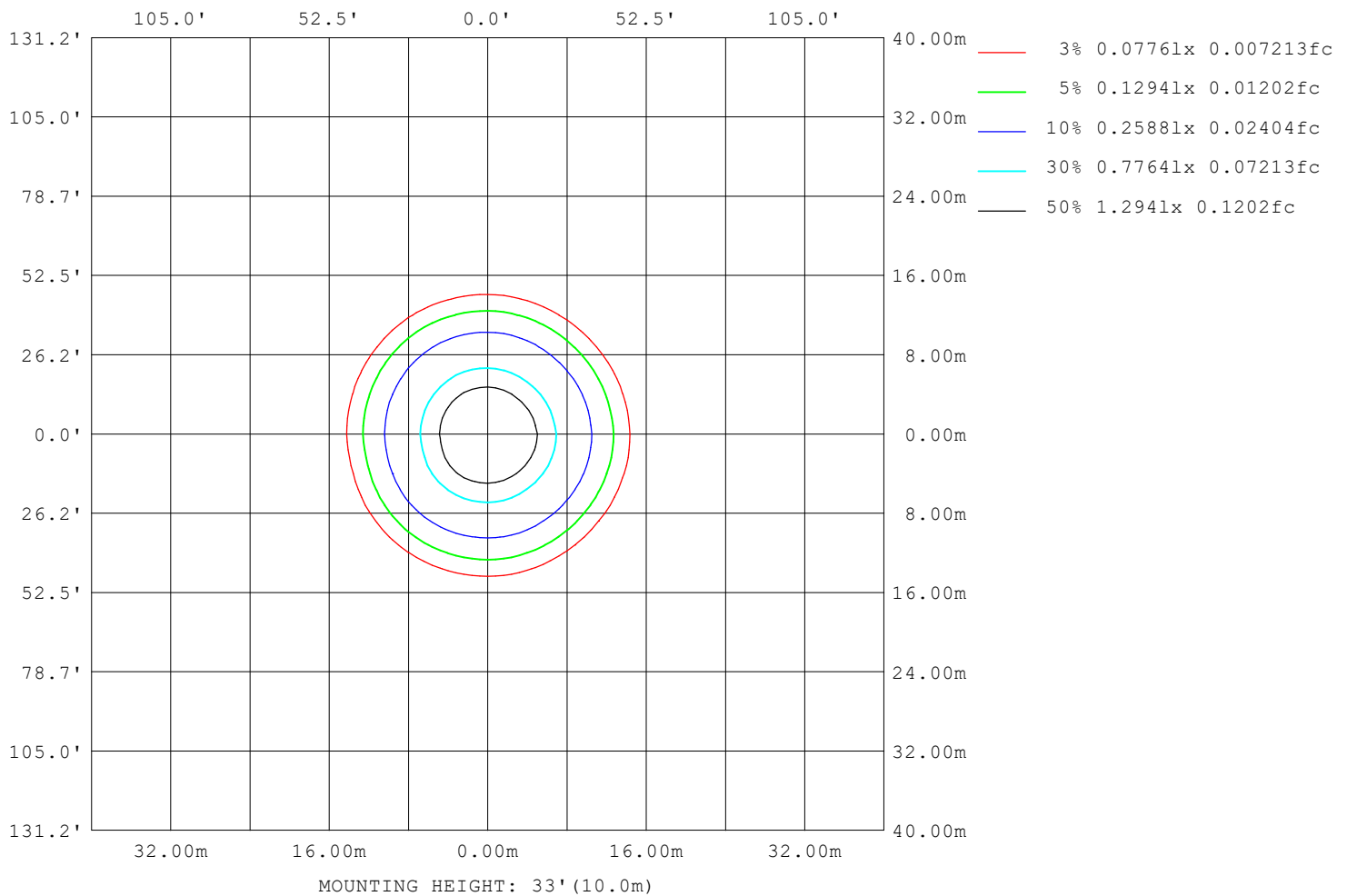
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:30 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: 95Livia180/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 x 180	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature: 25.3°C
Operators:
Test Date: 30 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: 95Livial80/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 220 x 180	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:

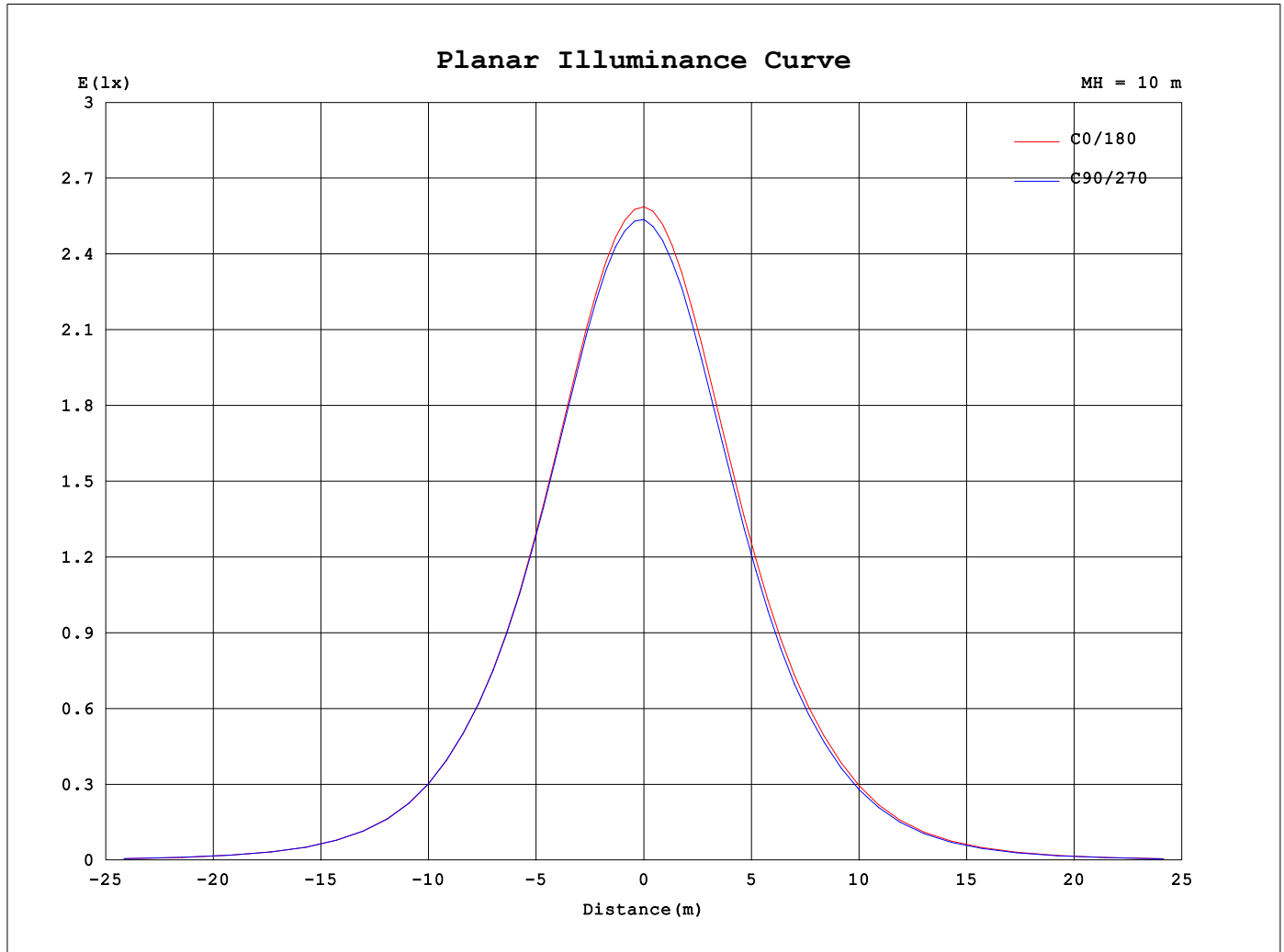
AvgL	cd/m2
L_0~180 (65) av	3701
L_0~180 (75) av	1275
L_0~180 (85) av	71
L_90~270 (65) av	3707
L_90~270 (75) av	1287
L_90~270 (85) av	71
L_45 (65) av	3695
L_45 (75) av	1285
L_45 (85) av	70

Standard: GB/T 29293-2012

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

```