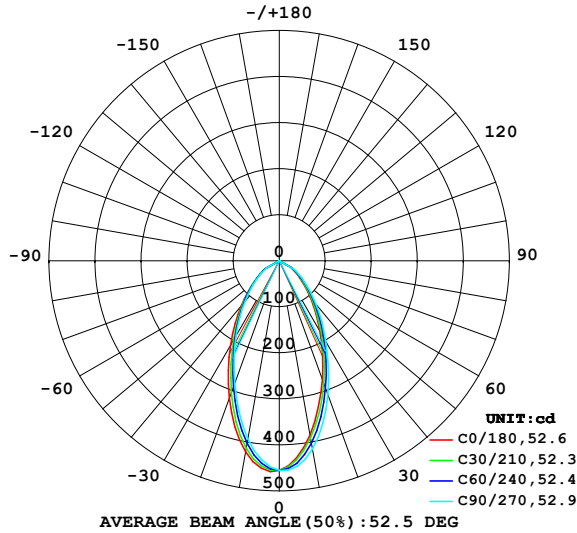


LUMINAIRE PHOTOMETRIC TEST REPORT

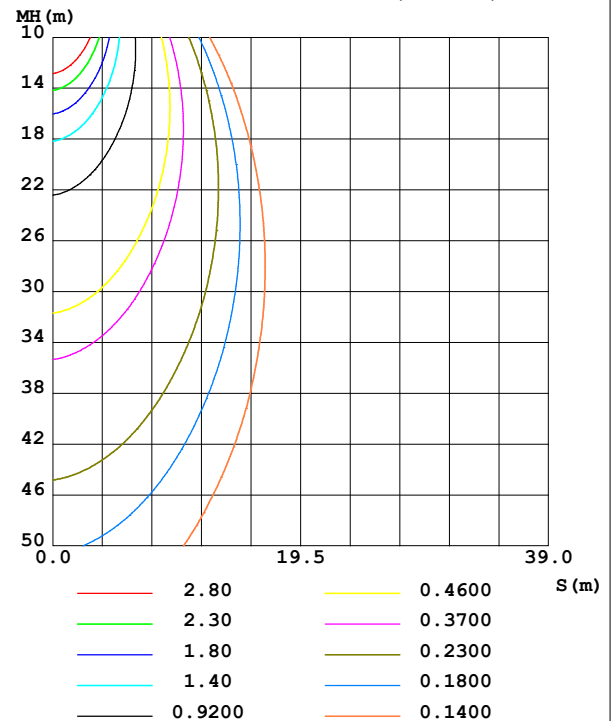
NAME: 95Livia90/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 105 x 96	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	95Livia90/GR	Imax(cd)	459.1	S/MH(C0/180)	0.83
NOMINAL POWER(W)	6	LOR(%)	105.7	S/MH(C90/270)	0.75
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	465.16	η UP,DN(C0-180)	0.0,53.7
NOMINAL FLUX(lm)	440	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,52.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230	η down (%)	105.7	CIBSE SHR MAX	0.90

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:19 December 2022

γ Range: 0 - 60DEG
 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	384.4	397.1	415.8	423.8	421.2	409.3	392.8	384.4	0- 10	40.92	40.92	8.8,9.3
20	274.4	288.8	309.1	320.9	317.6	297.6	283.8	277.8	10- 20	97.96	138.9	29.9,31.6
30	177.6	188.5	202.4	213.0	212.0	195.0	188.5	183.4	20- 30	111.4	250.3	53.8,56.9
40	106.0	115.3	124.9	128.7	129.2	122.1	116.6	111.5	30- 40	96.54	346.8	74.6,78.8
50	58.79	65.60	71.55	71.50	71.60	70.60	66.89	62.17	40- 50	70.36	417.2	89.7,94.8
60	28.99	32.93	36.19	35.58	35.39	35.31	33.05	30.23	50- 60	43.94	461.1	99.1,105
70	0	0	0	0	0	0	0	0	60- 70	4.016	465.2	100,106
80	0	0	0	0	0	0	0	0	70- 80	0	465.2	100,106
90	0	0	0	0	0	0	0	0	80- 90	0	465.2	100,106
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): 385.47 lm

%lum = 82.9%

%lamp = 87.6%

Conical surface Flux(130deg): 465.16 lm

%lum = 100.0%

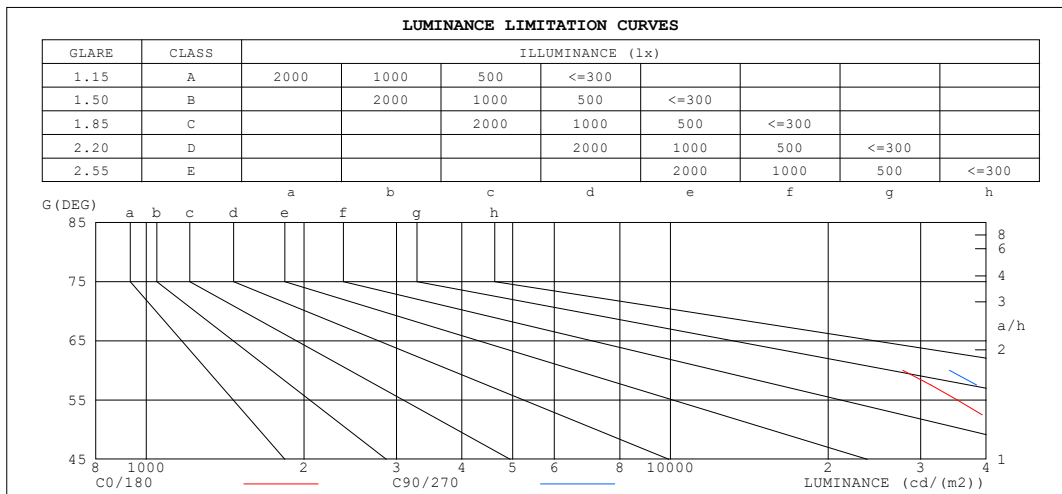
%lamp = 105.7%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:19 December 2022

γ Range: 0 - 60DEG
 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: 95Livia90/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 105 x 96	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	0	0
80	0	0
75	0	0
70	0	0
65	0	0
60	27718	34053
55	35275	42844
50	43725	52369
45	53982	63588

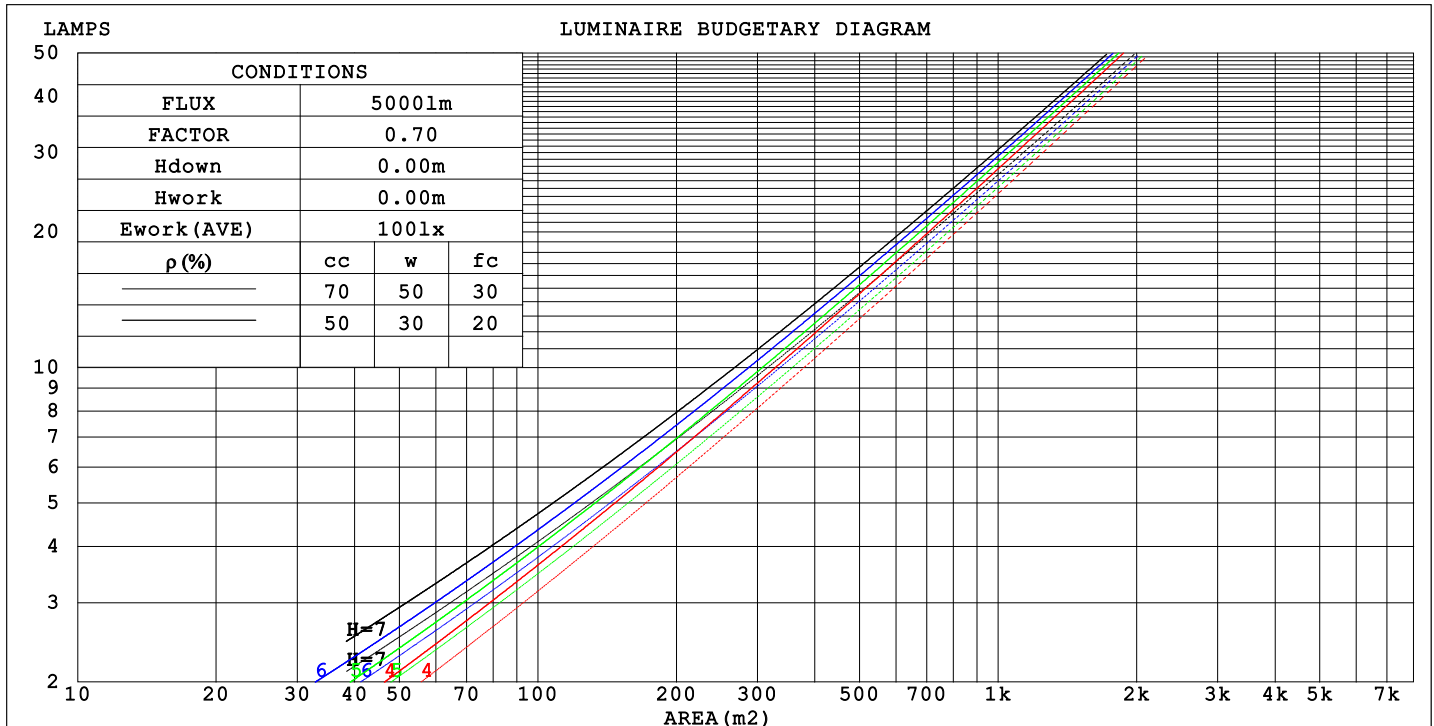
C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3°C
 Operators:
 Test Date: 19 December 2022

γ Range: 0 - 60DEG
 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: 95Livia90/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 105 x 96	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:19 December 2022

γ Range: 0 - 60DEG
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: 95Livia90/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 105 x 96	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 Coeffcients(WEC)									
0.0																
1.0	.213	.121	.038	.206	.117	.037	.192	.110	.035	.180	.104	.033	.168	.098	.031	
2.0	.208	.114	.035	.202	.111	.034	.190	.106	.033	.180	.101	.032	.170	.096	.030	
3.0	.200	.106	.032	.195	.104	.031	.185	.100	.030	.176	.096	.030	.167	.092	.029	
4.0	.191	.099	.029	.186	.097	.029	.178	.094	.028	.169	.091	.027	.162	.088	.027	
5.0	.182	.093	.027	.178	.091	.027	.170	.088	.026	.163	.086	.026	.156	.083	.025	
6.0	.173	.087	.025	.169	.085	.025	.162	.083	.024	.156	.081	.024	.150	.079	.023	
7.0	.164	.081	.023	.161	.080	.023	.155	.078	.023	.149	.077	.022	.144	.075	.022	
8.0	.156	.076	.021	.153	.075	.021	.148	.074	.021	.143	.072	.021	.138	.071	.021	
9.0	.149	.072	.020	.146	.071	.020	.141	.070	.020	.137	.069	.020	.132	.067	.019	
10.0	.142	.068	.019	.139	.067	.019	.135	.066	.019	.131	.065	.018	.127	.064	.018	

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	.201	.201	.201	.172	.172	.172	.117	.117	.117	.067	.067	.067	.022	.022	.022	
1.0	.183	.166	.151	.156	.143	.130	.107	.098	.090	.062	.057	.052	.020	.018	.017	
2.0	.169	.140	.116	.144	.120	.100	.099	.083	.070	.057	.048	.041	.018	.016	.013	
3.0	.157	.120	.091	.135	.104	.079	.093	.072	.055	.054	.042	.032	.017	.014	.011	
4.0	.148	.105	.072	.127	.091	.063	.087	.063	.044	.050	.037	.026	.016	.012	.009	
5.0	.140	.093	.059	.120	.081	.051	.083	.056	.036	.048	.033	.022	.015	.011	.007	
6.0	.132	.084	.049	.114	.073	.043	.078	.051	.030	.046	.030	.018	.015	.010	.006	
7.0	.126	.076	.041	.108	.066	.036	.075	.046	.026	.043	.027	.015	.014	.009	.005	
8.0	.120	.070	.035	.103	.061	.031	.071	.042	.022	.041	.025	.013	.013	.008	.004	
9.0	.114	.064	.031	.098	.056	.027	.068	.039	.019	.040	.023	.011	.013	.008	.004	
10.0	.109	.060	.027	.094	.052	.024	.065	.037	.017	.038	.022	.010	.012	.007	.003	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:19 December 2022

γ Range: 0 - 60DEG
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: 95Livia90/GR					TYPE:			WEIGHT: 1			
SPEC.:					DIM.: 105 x 96			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	26.5	27.7	26.8	27.8	28.0	27.3	28.4	27.6	28.6	28.8
	3H	26.3	27.4	26.6	27.6	27.8	27.1	28.2	27.4	28.4	28.6
	4H	26.3	27.2	26.5	27.4	27.7	27.0	28.0	27.3	28.2	28.5
	6H	26.2	27.1	26.5	27.3	27.6	26.9	27.9	27.3	28.1	28.4
	8H	26.1	27.0	26.4	27.2	27.5	26.9	27.8	27.2	28.0	28.3
	12H	26.1	26.9	26.4	27.2	27.5	26.9	27.7	27.2	28.0	28.2
4H	2H	26.5	27.5	26.8	27.7	28.0	27.3	28.2	27.5	28.4	28.7
	3H	26.3	27.2	26.7	27.5	27.7	27.1	27.9	27.4	28.2	28.5
	4H	26.3	27.0	26.6	27.3	27.6	27.0	27.7	27.3	28.0	28.3
	6H	26.2	26.8	26.5	27.2	27.5	26.9	27.5	27.3	27.9	28.2
	8H	26.1	26.7	26.5	27.1	27.4	26.8	27.4	27.2	27.8	28.2
	12H	26.1	26.6	26.5	27.0	27.4	26.8	27.3	27.2	27.7	28.1
8H	4H	26.1	26.7	26.5	27.1	27.4	26.8	27.4	27.2	27.8	28.2
	6H	26.0	26.5	26.4	26.9	27.3	26.7	27.2	27.2	27.6	28.0
	8H	26.0	26.4	26.4	26.8	27.3	26.7	27.1	27.1	27.5	28.0
	12H	25.9	26.3	26.4	26.7	27.2	26.6	27.0	27.1	27.4	27.9
12H	4H	26.1	26.6	26.5	27.0	27.4	26.8	27.3	27.2	27.7	28.1
	6H	26.0	26.4	26.4	26.8	27.3	26.7	27.1	27.1	27.5	28.0
	8H	25.9	26.3	26.4	26.7	27.2	26.6	27.0	27.1	27.4	27.9
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H		+ 2.0 / - 3.7					+ 2.3 / - 3.0				
1.5H		+ 0.8 / - 1.3					+ 0.8 / - 1.4				
2.0H		+ 3.0 / - 1.5					+ 3.2 / - 1.5				

CIE Pub.117, 440.0 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.9)
Area: 0.00212264 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:19 December 2022

γ Range: 0 - 60DEG
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: 95Livia90/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 105 x 96	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:

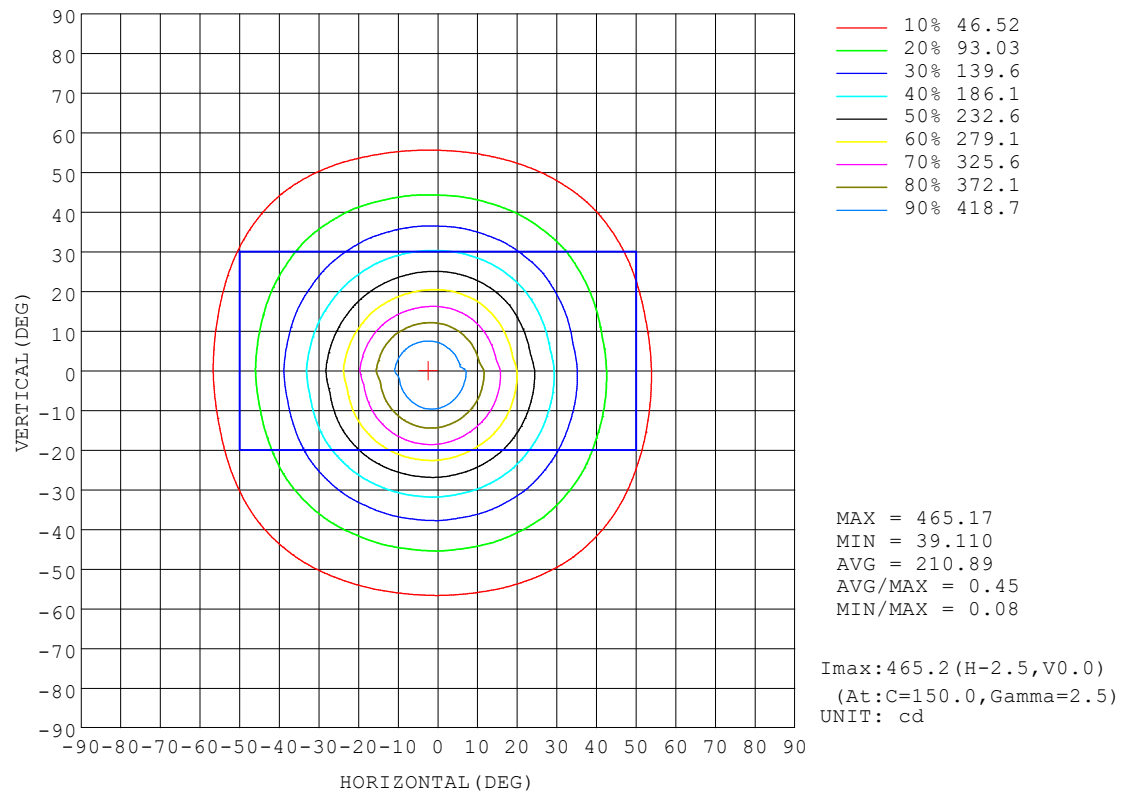
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	79	70	64	78	70	64	77	69	64	59
0.80	89	81	75	88	80	75	87	80	75	69
1.00	97	89	84	96	88	83	94	89	83	78
1.25	103	96	91	101	95	90	99	94	89	84
1.50	107	100	95	105	99	95	103	98	94	88
2.00	111	106	101	110	104	101	106	102	99	93
2.50	113	108	104	112	107	103	108	104	101	95
3.00	116	111	108	114	110	106	110	107	104	97
4.00	118	114	111	116	113	110	112	109	107	99
5.00	120	116	114	117	114	112	113	111	109	100
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: 19 December 2022

γ Range: 0 - 60DEG
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: 95Livia90/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 105 x 96	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:

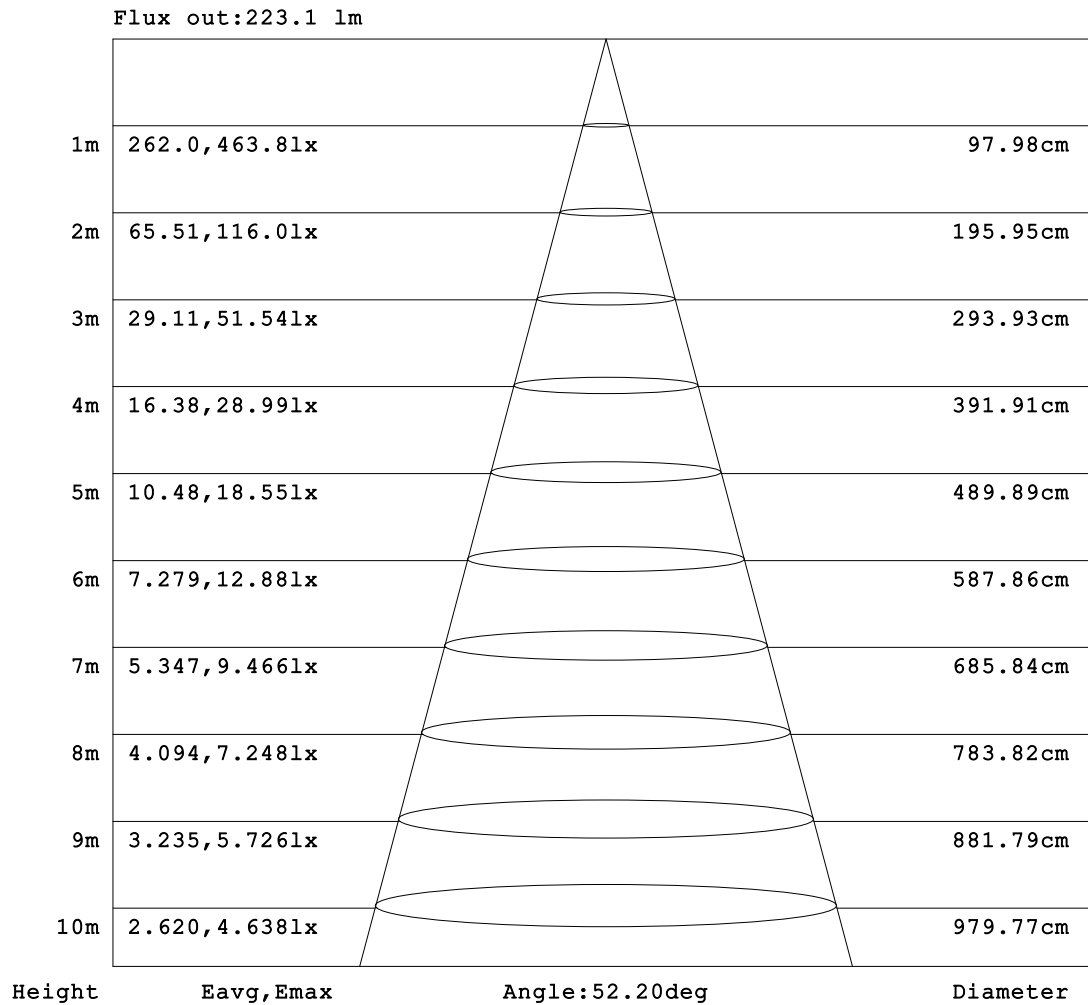


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: MEDIUM
 Temperature:25.3°C
 Operators:
 Test Date:19 December 2022

γ Range: 0 - 60DEG
 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: 95Livia90/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 105 x 96	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:



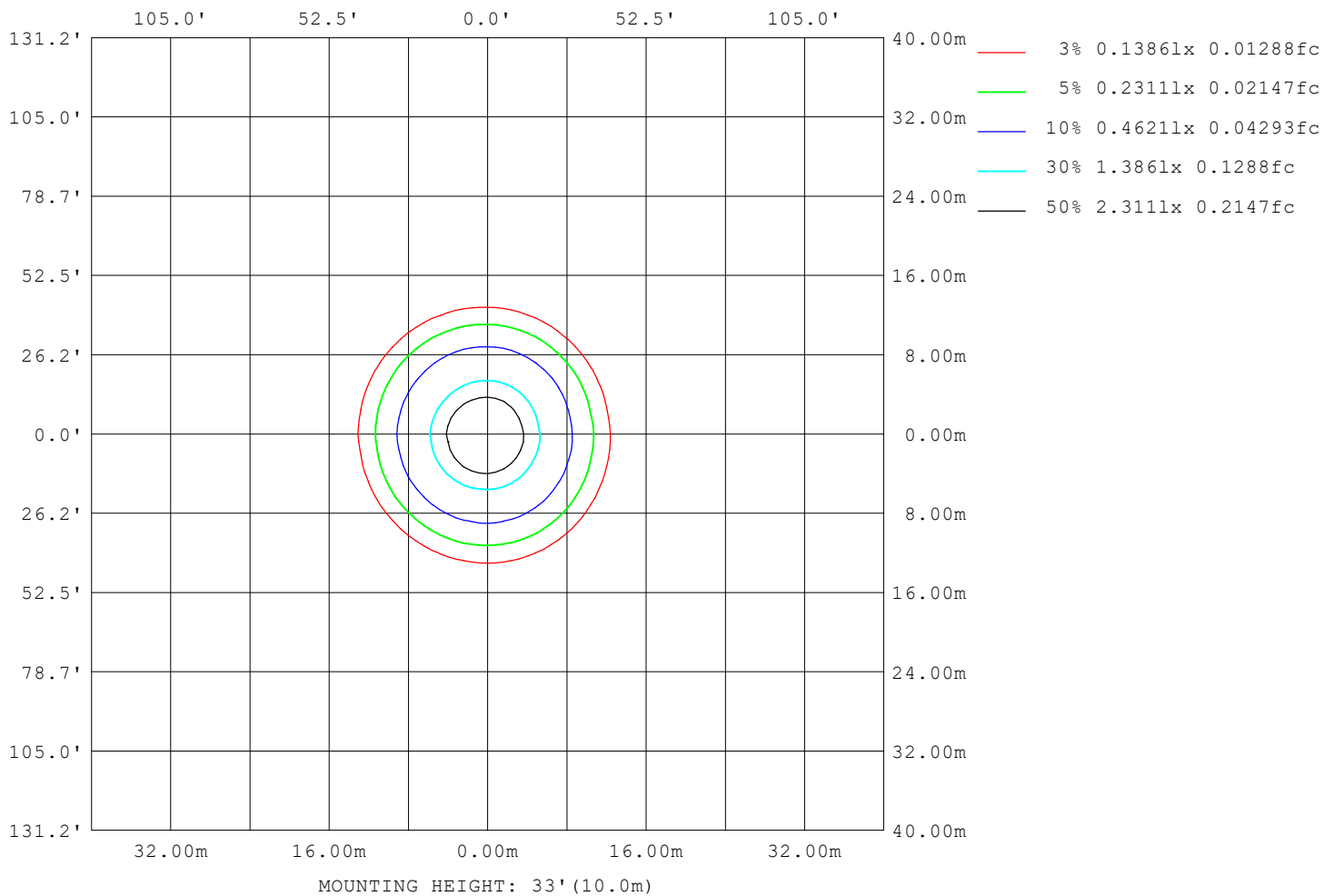
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:19 December 2022

γ Range: 0 - 60DEG
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: 95Livia90/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 105 x 96	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: 19 December 2022

γ Range: 0 - 60DEG
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: 95Livia90/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 105 x 96	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:

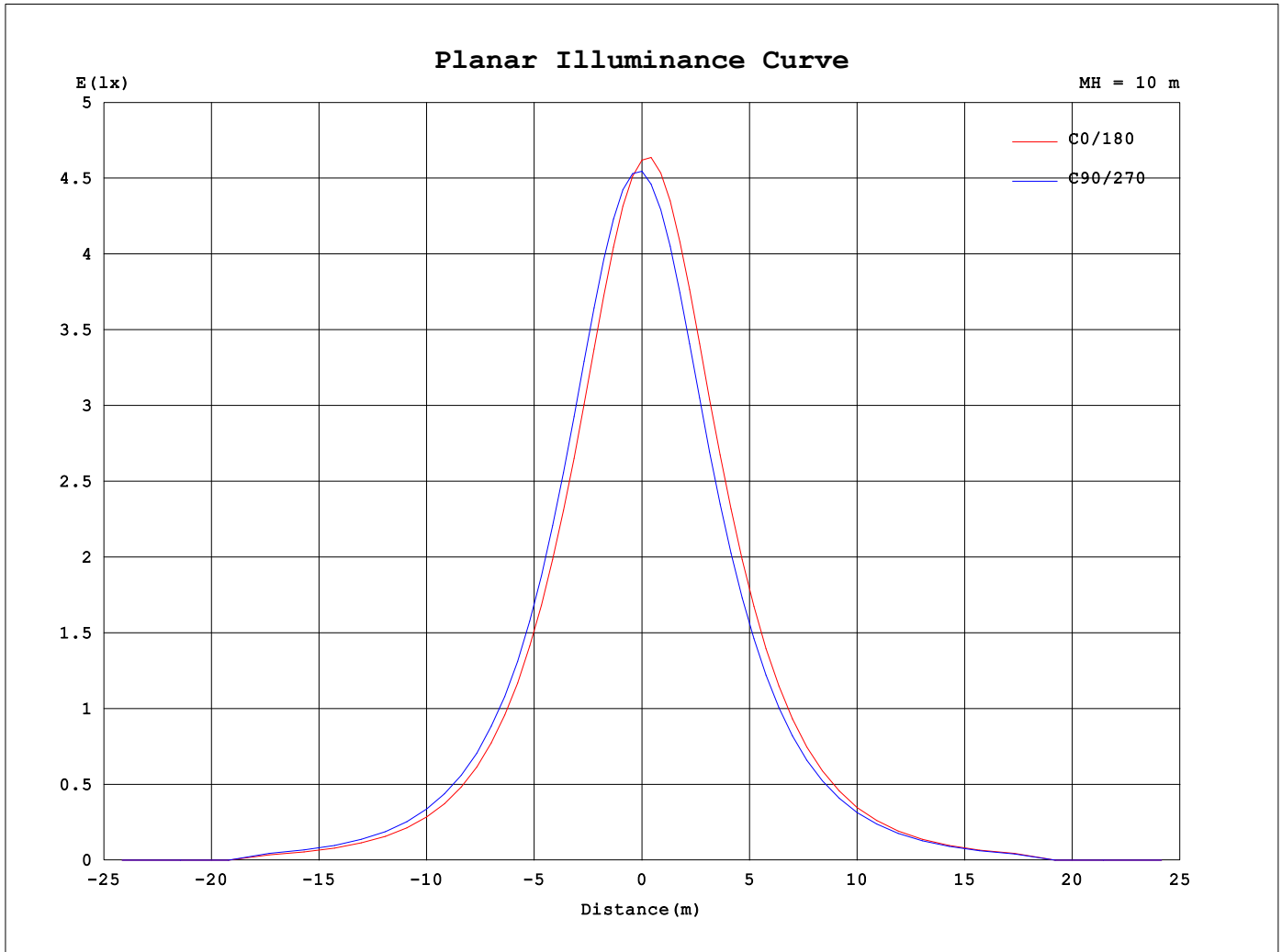
AvgL	cd/m2
L_0~180 (65) av	0
L_0~180 (75) av	0
L_0~180 (85) av	0
L_90~270 (65) av	0
L_90~270 (75) av	0
L_90~270 (85) av	0
L_45 (65) av	0
L_45 (75) av	0
L_45 (85) av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: MEDIUM
Temperature:25.3°C
Operators:
Test Date:19 December 2022

γ Range: 0 - 60DEG
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: 19 December 2022

γ Range: 0 - 60DEG
 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 - 60DEG
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 - 60DEG
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:

```