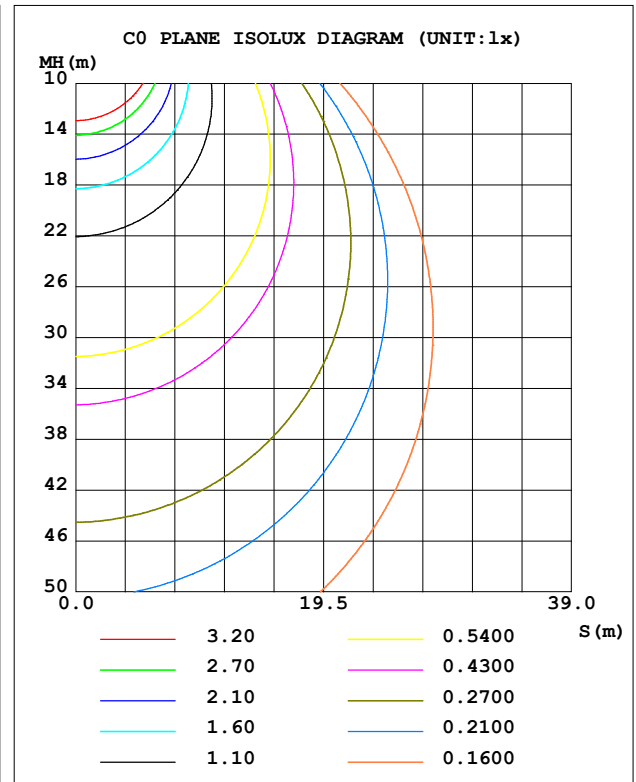
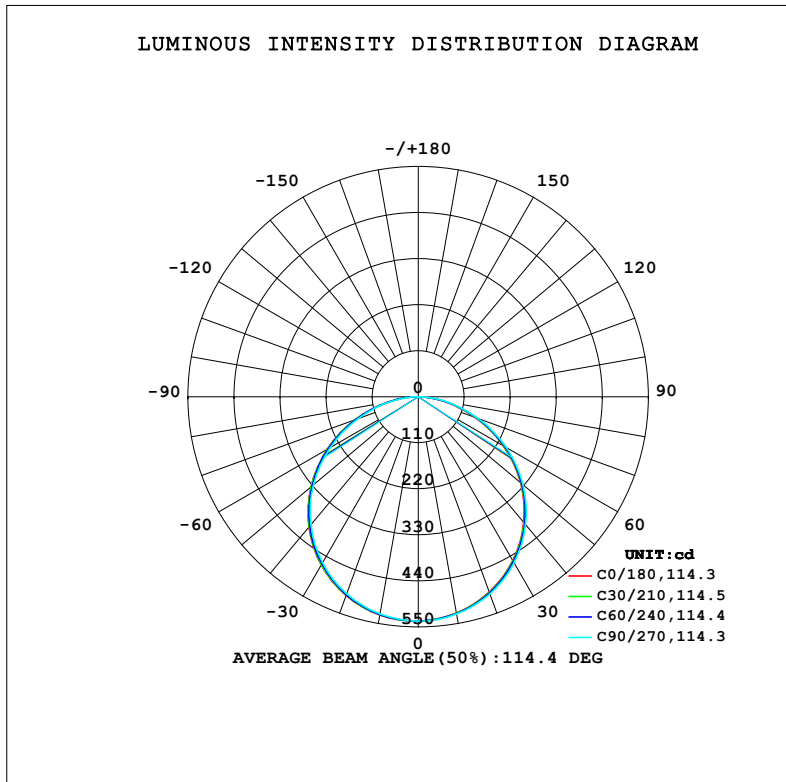


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 95SHELLY18LED/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 400 x 60	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	95SHELLY18LED/GR	Imax (cd)	535.9	S/MH (C0/180)	1.29
NOMINAL POWER (W)	18	LOR (%)	72.7	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	1569.5	η UP, DN (C0-180)	0.0, 36.3
NOMINAL FLUX (lm)	2160	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 36.4
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	72.7	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators:
Test Date: 19 January 2023

γ Range: 0 - 90DEG
 γ Interval: 2.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity: 65.0%
Test Distance: 6.340m [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	524.5	525.4	527.2	528.8	529.3	528.7	527.1	525.3	0- 10	50.73	50.73	3.23,2.35
20	496.5	498.0	501.1	504.1	505.2	504.0	500.6	497.2	10- 20	145.7	196.4	12.5,9.09
30	451.9	454.1	458.0	462.2	464.0	462.4	457.6	452.7	20- 30	221.9	418.3	26.7,19.4
40	392.1	394.8	399.3	404.4	406.7	404.8	399.0	393.2	30- 40	269.2	687.5	43.8,31.8
50	319.2	322.0	326.8	332.4	334.9	333.1	326.8	320.3	40- 50	281.2	968.8	61.7,44.8
60	235.3	238.1	242.8	248.5	251.4	249.8	243.1	236.5	50- 60	255.7	1224	78,56.7
70	145.4	148.3	152.7	157.9	161.1	159.6	153.0	146.6	60- 70	196.3	1421	90.5,65.8
80	61.18	62.53	65.76	70.13	72.92	72.13	66.88	61.25	70- 80	114.9	1536	97.8,71.1
90	1.180	1.127	1.059	2.416	3.253	2.868	1.458	0.9738	80- 90	33.78	1569	100,72.7
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): 829 lm

%lum = 52.8%

%lamp = 38.4%

Conical surface Flux(130deg): 1331.8 lm

%lum = 84.9%

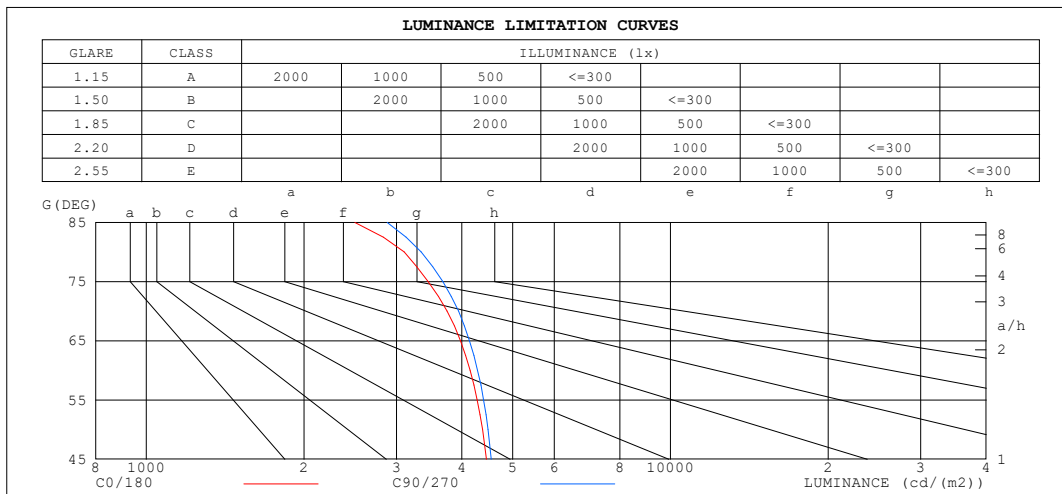
%lamp = 61.7%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:19 January 2023

γ Range: 0 - 90DEG
 γ Interval: 2.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:6.340m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

NAME: 95SHELLY18LED/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 400 x 60	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:



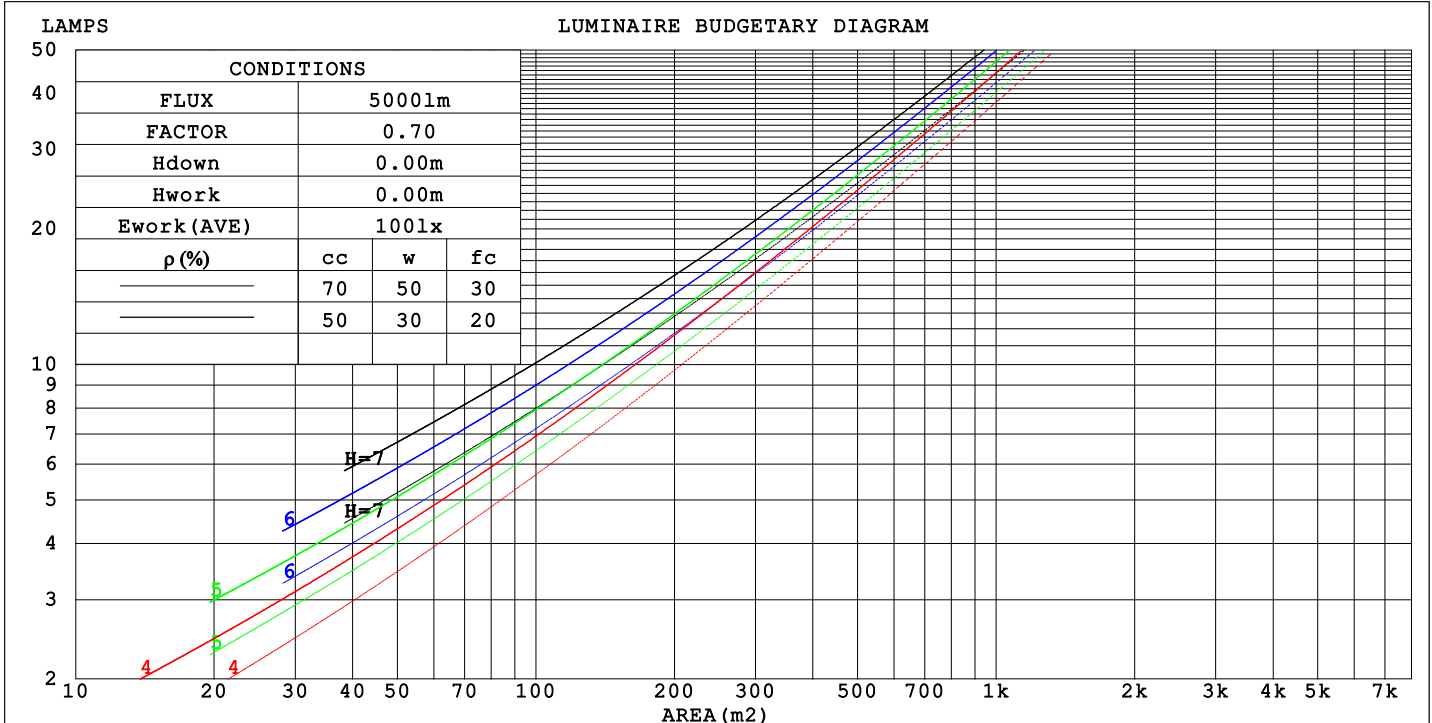
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators:
Test Date: 19 January 2023

γ Range: 0 - 90DEG
γ Interval: 2.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity: 65.0%
Test Distance: 6.340m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: 95SHELLY18LED/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 400 x 60	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	Coefficients of Utilization (CU)															
0.0	.87	.87	.87	.84	.84	.84	.81	.81	.81	.77	.77	.77	.74	.74	.74	.73
1.0	.75	.72	.69	.74	.71	.68	.71	.68	.66	.68	.66	.64	.65	.63	.62	.60
2.0	.65	.60	.56	.64	.59	.55	.61	.58	.54	.59	.56	.53	.57	.54	.52	.50
3.0	.57	.51	.46	.56	.51	.46	.54	.49	.45	.52	.48	.44	.50	.47	.44	.42
4.0	.51	.44	.39	.50	.44	.39	.48	.43	.38	.46	.42	.38	.45	.41	.37	.36
5.0	.45	.39	.34	.44	.38	.34	.43	.37	.33	.41	.37	.33	.40	.36	.32	.31
6.0	.41	.34	.29	.40	.34	.29	.39	.33	.29	.37	.32	.29	.36	.32	.28	.27
7.0	.37	.30	.26	.36	.30	.26	.35	.30	.26	.34	.29	.25	.33	.29	.25	.24
8.0	.34	.27	.23	.33	.27	.23	.32	.27	.23	.31	.26	.23	.30	.26	.23	.21
9.0	.31	.25	.21	.30	.25	.21	.30	.24	.21	.29	.24	.20	.28	.24	.20	.19
10.0	.28	.23	.19	.28	.22	.19	.27	.22	.19	.27	.22	.19	.26	.22	.18	.17



WEC AND CCEC

NAME: 95SHELLY18LED/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 400 x 60	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	.229	.130	.041	.224	.128	.041	.214	.123	.039</							

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	.138	.138	.138	.118	.118	.118	.081	.081	.081	.046	.046	.046				

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:19 January 2023

γ Range: 0 - 90DEG
γ Interval: 2.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:6.340m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

NAME: 95SHELLY18LED/GR						TYPE:			WEIGHT: 1		
SPEC.:						DIM.: 400 x 60			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	15.2	16.7	15.5	16.9	17.1	15.3	16.8	15.6	17.0	17.2
	3H	16.7	18.1	17.0	18.3	18.6	16.8	18.3	17.1	18.5	18.7
	4H	17.3	18.6	17.6	18.9	19.1	17.5</				

CIE Pub.117, 2160 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.7)
Area: 0.113354 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:19 January 2023

γ Range: 0 - 90DEG
γ Interval: 2.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:6.340m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

NAME: 95SHELLY18LED/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 400 x 60	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:

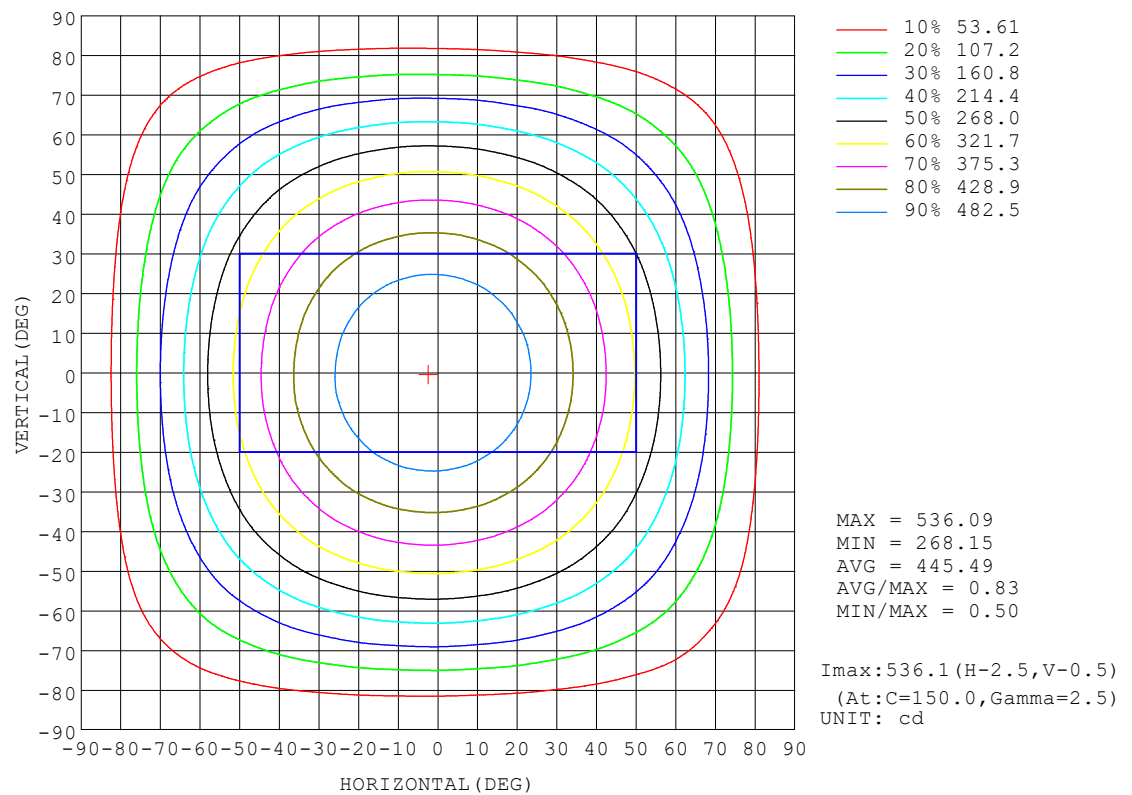
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	41	33	28	41	33	28	40	32	28	23
0.80	49	40	35	48	40	35	47	39	34	29
1.00	55	47	41	54	46	41	52	47	41	36
1.25	60	52	47	59	52	47	57	51	46	41
1.50	64	56	51	62	56	51	60	54	50	45
2.00	69	62	58	67	62	57	65	60	56	50
2.50	72	66	61	70	65	61	67	63	59	53
3.00	74	69	65	72	68	64	70	66	63	56
4.00	77	73	69	75	72	68	72	69	66	60
5.00	79	75	72	77	74	71	74	71	69	62
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: HIGH
Temperature:25.3°C
Operators:
Test Date:19 January 2023

γ Range: 0 - 90DEG
γ Interval: 2.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:6.340m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

NAME: 95SHELLY18LED/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 400 x 60	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:

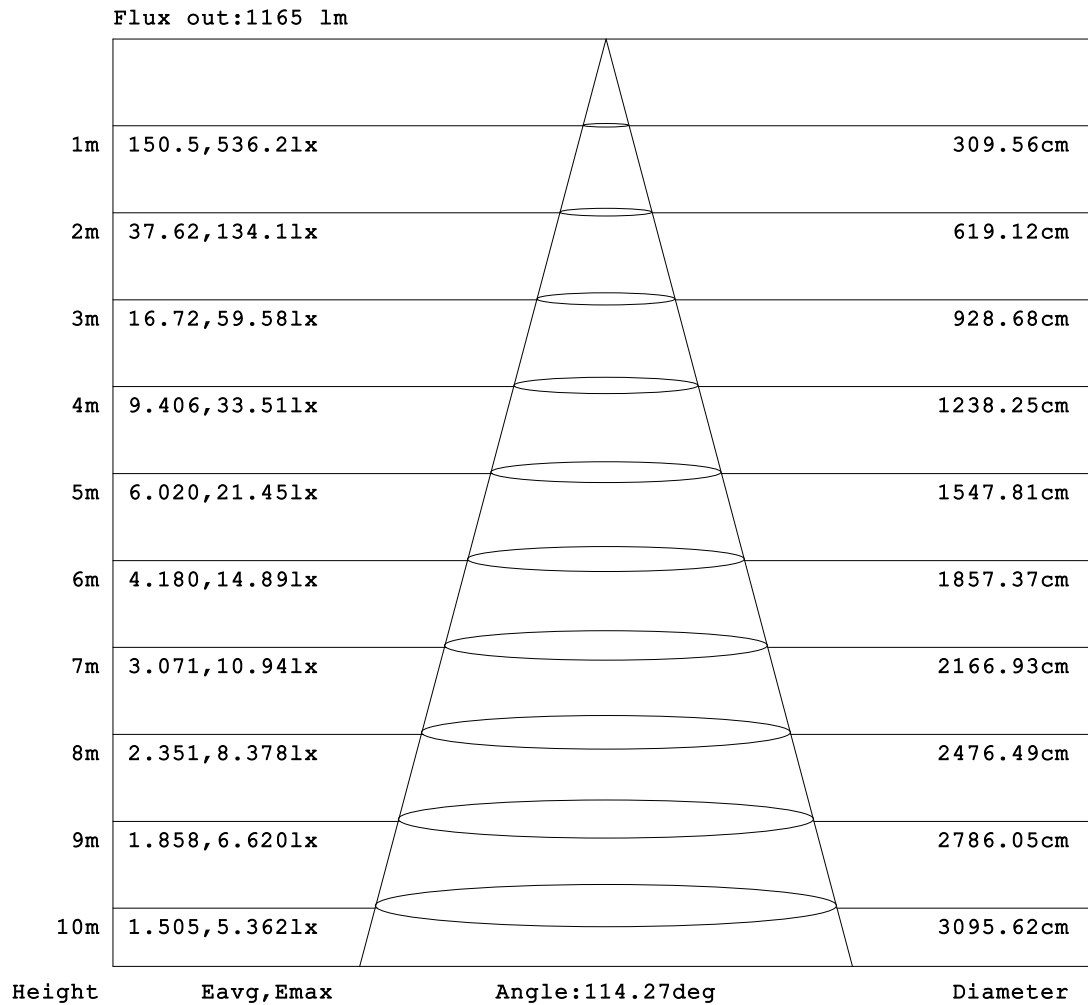


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:19 January 2023

γ Range: 0 - 90DEG
 γ Interval: 2.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
 Humidity:65.0%
 Test Distance:6.340m [K=1.0000]
 Remarks:

AAI Figure

NAME: 95SHELLY18LED/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 400 x 60	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:



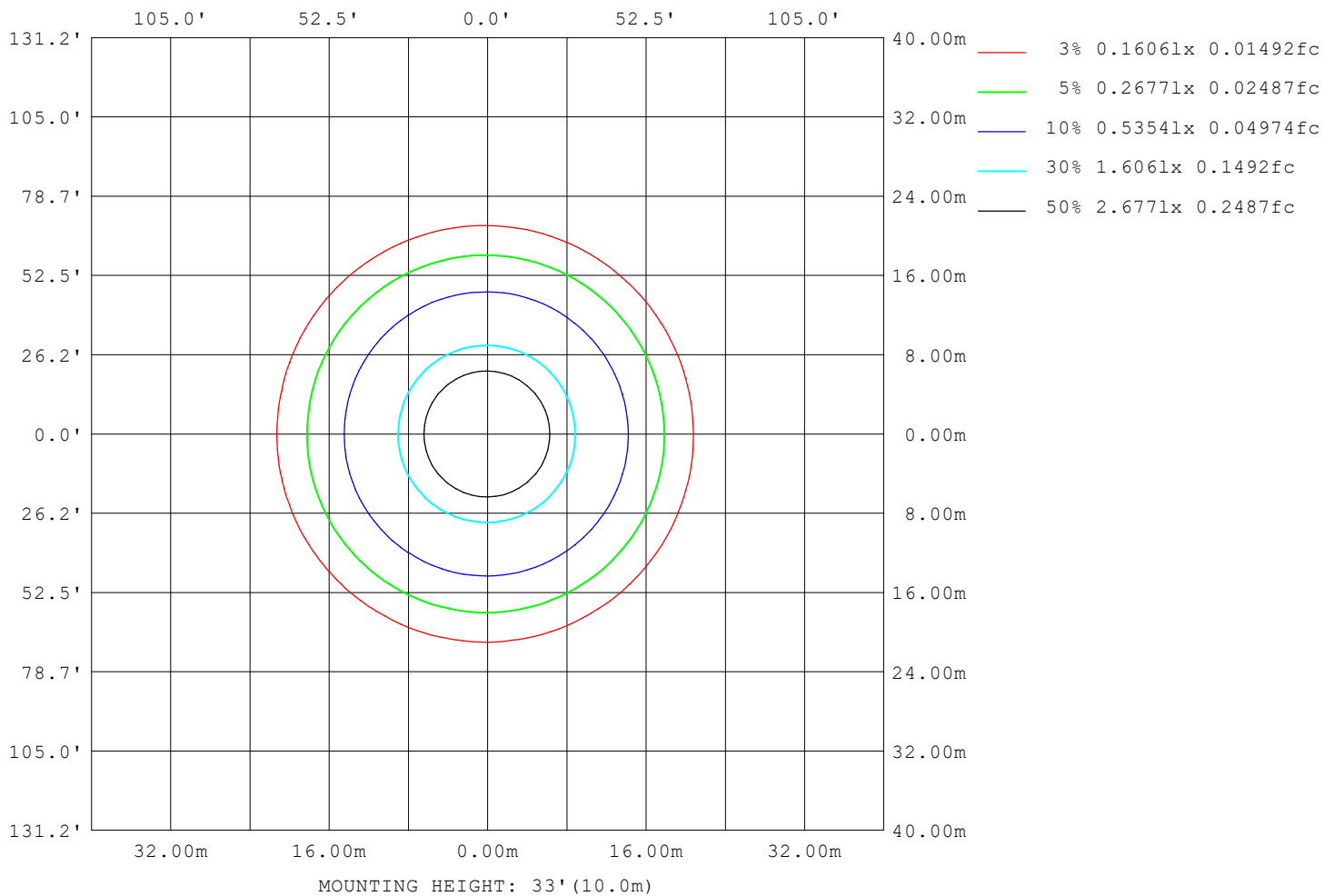
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators:
 Test Date: 19 January 2023

γ Range: 0 - 90DEG
 γ Interval: 2.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.456
 Humidity: 65.0%
 Test Distance: 6.340m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

NAME: 95SHELLY18LED/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 400 x 60	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators:
Test Date: 19 January 2023

γ Range: 0 - 90DEG
γ Interval: 2.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity: 65.0%
Test Distance: 6.340m [K=1.0000]
Remarks:

LED Avg.L Report

NAME: 95SHELLY18LED/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 400 x 60	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:

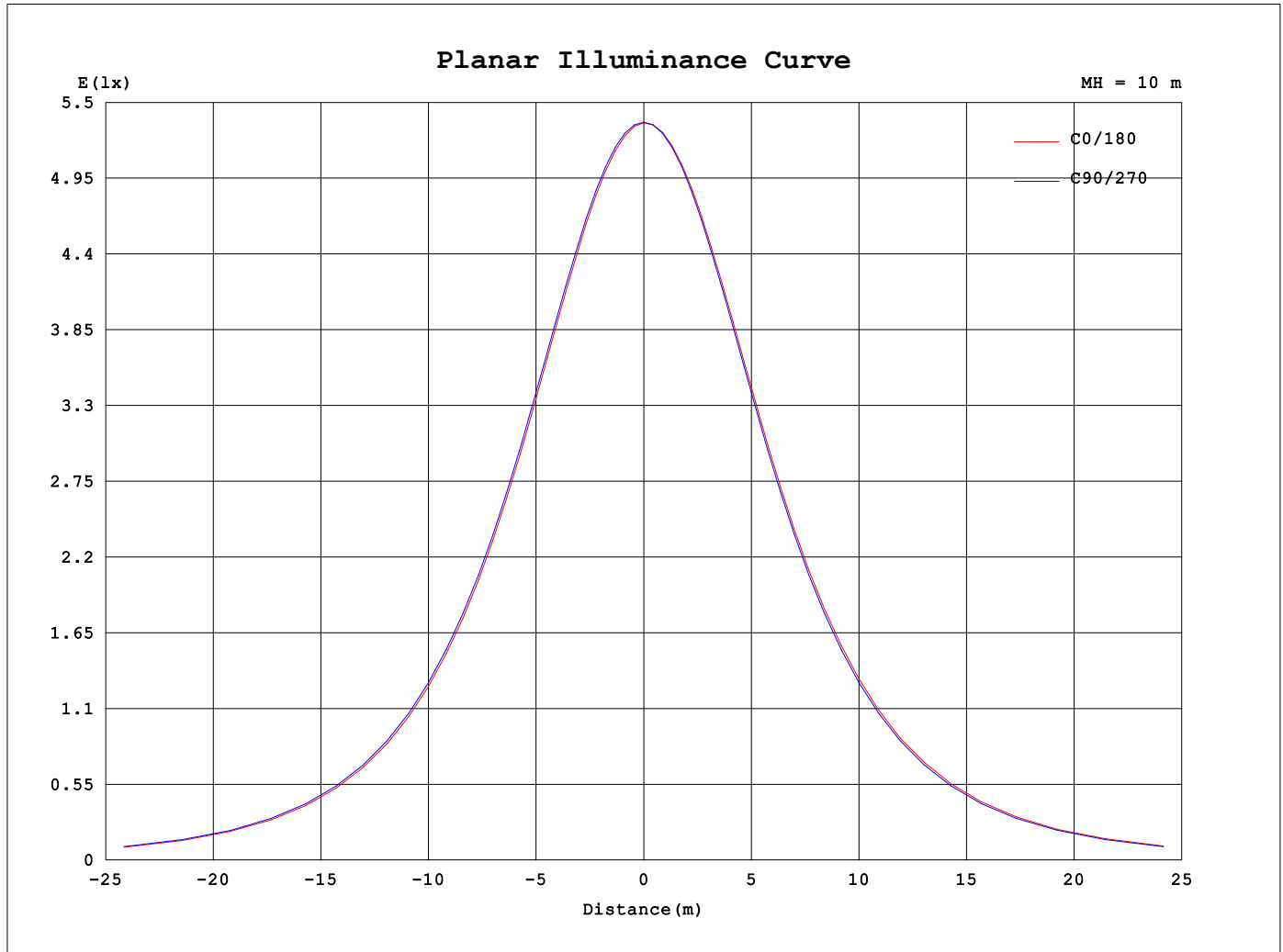
AvgL	cd/m2
L_0~180 (65) av	4146
L_0~180 (75) av	3699
L_0~180 (85) av	3002
L_90~270 (65) av	4138
L_90~270 (75) av	3686
L_90~270 (85) av	2953
L_45 (65) av	4143
L_45 (75) av	3693
L_45 (85) av	2976

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:19 January 2023

γ Range: 0 - 90DEG
γ Interval: 2.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:6.340m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators:
 Test Date: 19 January 2023

γ Range: 0 - 90DEG
 γ Interval: 2.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.456
 Humidity: 65.0%
 Test Distance: 6.340m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: 95SHELLY18LED/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 400 x 60	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536
5	532	533	532	533	533	533	533	533	533	534	534	534	534	535	535	535	535	535	535
10	525	525	525	525	525	526	526	526	527	527	528	528	528	529	529	529	529	530	529
15	513	513	513	513	513	514	514	515	515	516	517	517	518	518	519	519	519	520	520
20	496	497	497	498	498	498	499	499	500	501	502	502	503	504	504	505	505	506	505
25	476	477	477	477	478	479	479	480	480	482	482	483	484	485	486	486	487	487	487
30	452	452	453	453	454	455	455	456	457	458	459	460	461	462	462	464	464	464	464
35	424	425	424	426	426	427	427	429	429	430	431	433	433	435	435	437	437	438	437
40	392	393	393	394	394	395	396	397	398	399	400	402	403	404	405	406	406	407	407
45	357	358	358	359	359	361	361	362	363	365	365	367	368	370	370	372	372	373	373
50	319	320	320	321	321	323	323	324	325	327	328	329	330	332	333	334			

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: 95SHELLY18LED/GR	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 400 x 60	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: cilinder	Shielding Angle:

Table--2

UNIT: cd

C (DEG) γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536		
5	535	535	535	534	534	534	534	534	534	534	533	533	533	533	533	532	532		
10	529	529	529	529	529	528	528	527	527	527	526	526	525	525	525	525	525		
15	519	519	519	519	518	518	517	517	516	515	515	514	513	513	513	513	512		
20	505	505	505	504	504	503	502	502	501	500	499	498	497	497	496	496	496		
25	486	486	486	486	485	484	483	482	481	480	479	478	477	477	476	476	476		
30	464	464	463	463	462	461	460	459	458	457	455	454	453	453	452	452	451		
35	437	437	436	436	435	434	433	432	430	429	427	427	425	425	424	424	423		
40	406	407	406	405	404	403	402	401	399	398	396	395	393	393	392	392	392		
45	372	372	372	371	370	369	367	366	364	363	361	360	358	358	357	357	356		
50	335	335	334	334	332	332	330	329	327										