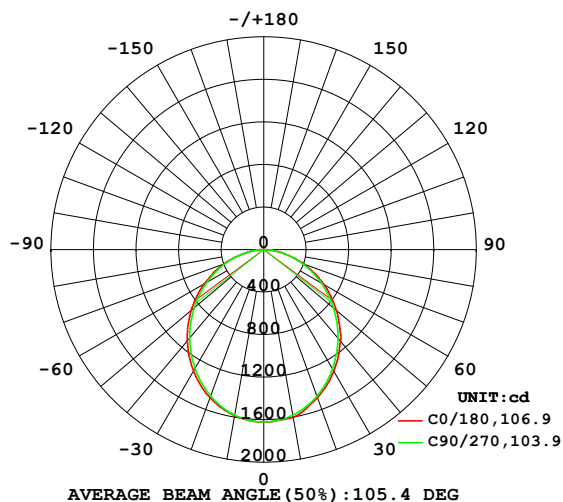


## LUMINAIRE PHOTOMETRIC TEST REPORT

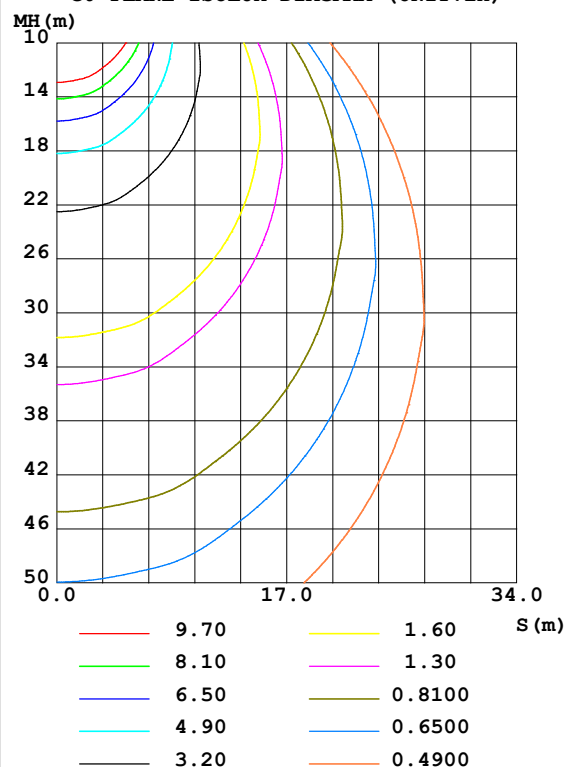
Test:U:239.9V I:0.2069A P:48.35W PF:0.9738 Lamp Flux:4305.23x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_500mA_3000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 89.04 lm/W			
LED MODULE	2400lm 930 HV ADV5	Imax(cd)	1621	S/MH(C0/180)	1.22
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.19
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	4305.2	$\eta$ UP,DN(C0-180)	0.0,50.1
NOMINAL FLUX(lm)	4305.23	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,49.9
LAMPS INSIDE	1	$\eta$ up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	$\eta$ down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:21 September 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.892m [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	1601	1586	1581	1583	1585	1583	1580	1586	0- 10	153.0	153.0	3.55,3.55
20	1480	1481	1466	1474	1481	1473	1465	1481	10- 20	433.8	586.8	13.6,13.6
30	1319	1306	1295	1308	1321	1306	1292	1305	20- 30	643.5	1230	28.6,28.6
40	1125	1102	1087	1103	1120	1101	1083	1100	30- 40	755.9	1986	46.1,46.1
50	893.3	876.3	858.8	874.5	891.4	871.9	854.4	874.3	40- 50	764.1	2750	63.9,63.9
60	652.1	636.5	622.7	633.6	646.4	630.9	618.1	634.2	50- 60	675.1	3425	79.6,79.6
70	403.5	395.3	387.8	390.7	401.3	388.2	383.9	393.1	60- 70	507.6	3933	91.4,91.4
80	163.9	169.9	170.7	164.7	152.8	162.7	167.3	167.8	70- 80	291.2	4224	98.1,98.1
90	1.331	6.956	8.936	6.221	1.265	6.164	8.635	6.533	80- 90	80.95	4305	100,100
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): 2373.8 lm

%lum = 55.1%

%lamp = 55.1%

Conical surface Flux(120deg): 3425.5 lm

%lum = 79.6%

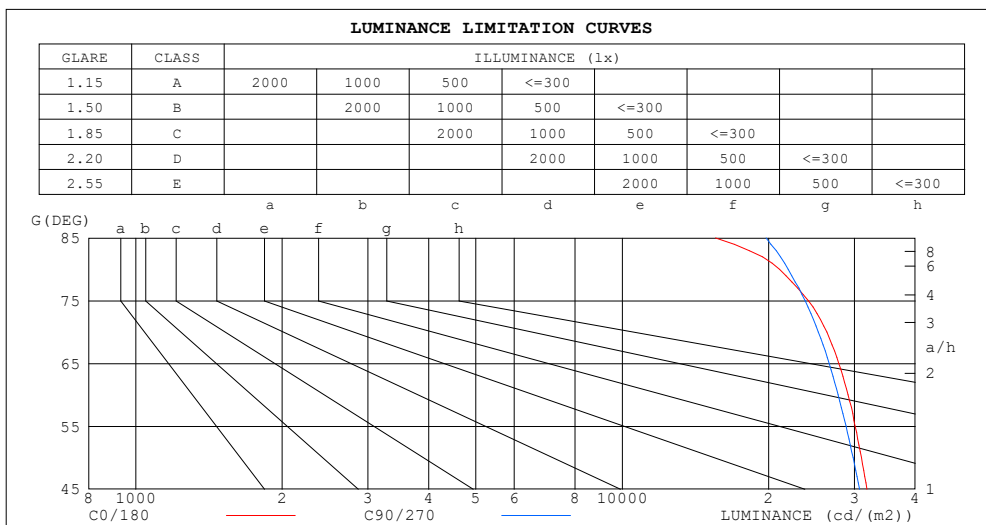
%lamp = 79.6%

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:JEFF  
 Test Date:21 September 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:65.0%  
 Test Distance:7.892m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:239.9V I:0.2069A P:48.35W PF:0.9738 Lamp Flux:4305.23x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_500mA_3000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	15560	19773
80	21064	21935
75	24132	23756
70	26335	25306
65	27888	26638
60	29114	27797
55	30128	28841
50	31022	29820
45	31848	30776

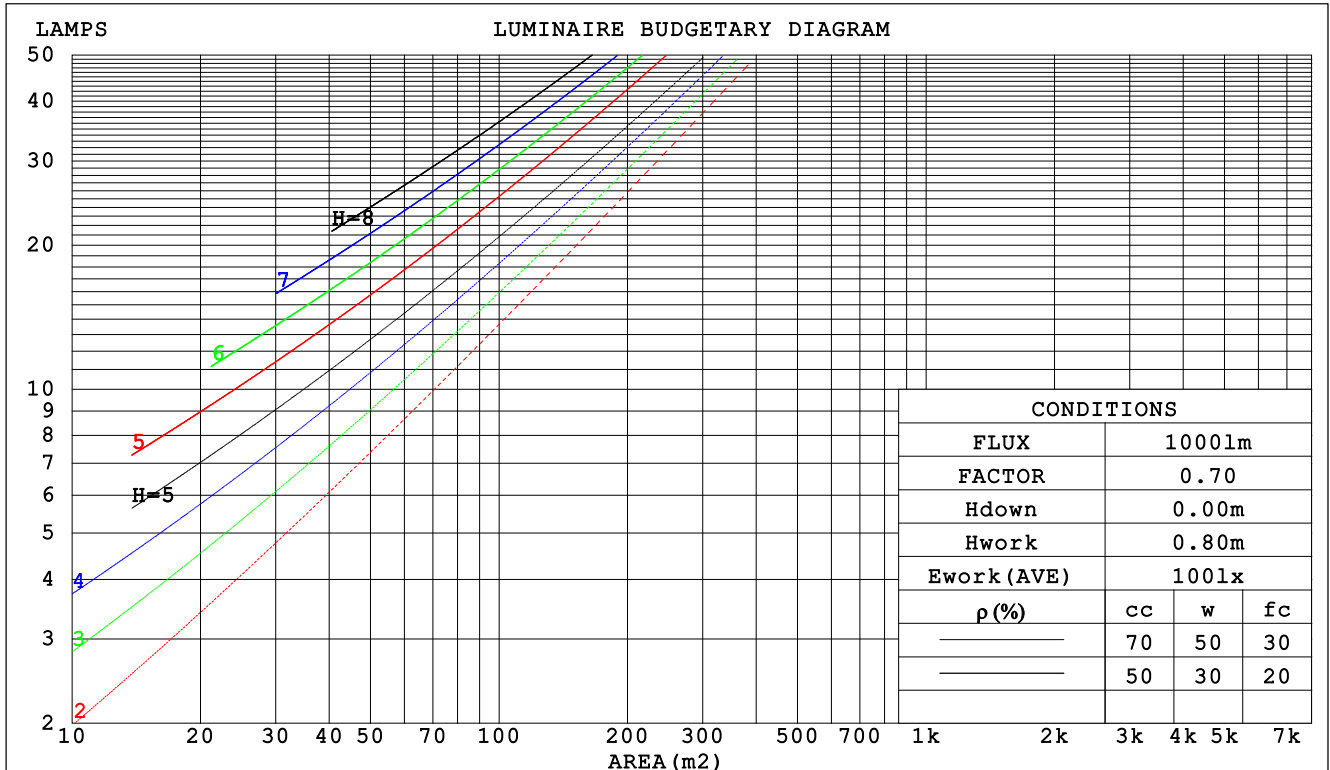
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: JEFF  
Test Date: 21 September 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 7.892m [K=1.0000]  
Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:239.9V I:0.2069A P:48.35W PF:0.9738 Lamp Flux:4305.23x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_500mA_3000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	Coefficients of Utilization(CU)															
RCR:Room Cavity Ratio																
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.04	.00	.96	1.02	.98	.94	.98	.94	.91	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.84	.78	.89	.83	.77	.85	.80	.76	.82	.78	.74	.79	.75	.72	.70
3.0	.80	.72	.65	.78	.71	.65	.75	.69	.64	.73	.67	.62	.70	.65	.61	.59
4.0	.71	.62	.55	.70	.61	.55	.67	.60	.54	.65	.59	.54	.63	.57	.53	.51
5.0	.63	.54	.48	.62	.54	.48	.60	.53	.47	.58	.52	.47	.56	.51	.46	.44
6.0	.57	.48	.42	.56	.48	.42	.54	.47	.41	.53	.46	.41	.51	.45	.41	.39
7.0	.52	.43	.37	.51	.43	.37	.50	.42	.37	.48	.41	.36	.47	.41	.36	.34
8.0	.47	.39	.33	.47	.39	.33	.45	.38	.33	.44	.37	.33	.43	.37	.32	.31
9.0	.44	.35	.30	.43	.35	.30	.42	.35	.30	.41	.34	.29	.40	.34	.29	.27
10.0	.40	.32	.27	.40	.32	.27	.39	.32	.27	.38	.31	.27	.37	.31	.27	.25



C Range: 0 - 360DEG

C Interval: 22.5DEG

Test Speed: HIGH

Temperature:25.3DEG

Operators:JEFF

Test Date:21 September 2023

$\gamma$  Range: 0 - 90DEG

$\gamma$  Interval: 1.0DEG

Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295

Humidity:65.0%

Test Distance:7.892m [K=1.0000]

Remarks:

**WEC AND CCEC**

Test:U:239.9V I:0.2069A P:48.35W PF:0.9738 Lamp Flux:4305.23x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_500mA_3000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	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	.306	.174	.055	.299	.170	.054	.285	.164	.052	.273	.158	.051	.262	.152	.049		
2.0	.288	.158	.048	.282	.155	.048	.270	.150	.047	.259	.145	.046	.249	.141	.044		
3.0	.266	.142	.042	.261	.140	.042	.251	.136	.041	.241	.132	.041	.232	.129	.040		
4.0	.246	.128	.038	.241	.126	.037	.232	.123	.037	.224	.120	.036	.216	.117	.036		
5.0	.228	.116	.034	.223	.115	.033	.215	.112	.033	.208	.110	.033	.201	.107	.032		
6.0	.211	.106	.030	.208	.105	.030	.200	.103	.030	.194	.101	.030	.187	.099	.029		
7.0	.197	.097	.028	.193	.096	.027	.187	.095	.027	.181	.093	.027	.175	.091	.027		
8.0	.184	.090	.025	.181	.089	.025	.175	.087	.025	.170	.086	.025	.165	.085	.025		
9.0	.172	.083	.023	.170	.083	.023	.165	.081	.023	.160	.080	.023	.155	.079	.023		
10.0	.162	.078	.022	.160	.077	.022	.155	.076	.021	.151	.075	.021	.147	.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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020		
1.0	.180	.156	.135	.154	.134	.116	.105	.092	.080	.061	.053	.047	.019	.017	.015		
2.0	.172	.132	.098	.147	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011		
3.0	.164	.114	.075	.140	.099	.065	.096	.068	.045	.056	.040	.027	.018	.013	.009		
4.0	.156	.101	.059	.134	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007		
5.0	.149	.090	.048	.128	.078	.041	.088	.055	.029	.051	.032	.017	.016	.010	.006		
6.0	.141	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005		
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.021	.046	.027	.012	.015	.009	.004		
8.0	.128	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004		
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.042	.023	.009	.014	.008	.003		
10.0	.117	.060	.023	.100	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003		

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:21 September 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.892m [K=1.0000]  
Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:239.9V I:0.2069A P:48.35W PF:0.9738 Lamp Flux:4305.23x1 lm										
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_500mA_3000K CRI90								WEIGHT:		
SPEC.:				DIM.:				SERIAL No.:1		
MFR.: DARKON				SUR.:				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	24.7	26.2	24.9	26.4	26.6	24.5	26.0	24.7	26.2	26.4
3H	26.2	27.5	26.4	27.8	28.0	25.9	27.3	26.2	27.6	27.8
4H	26.7	28.1	27.1	28.3	28.6	26.5	27.9	26.9	28.1	28.4
6H	27.1	28.4	27.5	28.7	28.9	27.0	28.2	27.3	28.5	28.8
8H	27.3	28.5	27.6	28.7	29.0	27.1	28.3	27.5	28.6	28.9
12H	27.3	28.5	27.7	28.8	29.1	27.2	28.4	27.6	28.7	29.0
4H 2H	25.2	26.6	25.5	26.8	27.1	25.1	26.4	25.4	26.6	26.9
3H	26.9	28.1	27.3	28.4	28.7	26.7	27.9	27.1	28.2	28.5
4H	27.6	28.7	28.0	29.0	29.3	27.5	28.5	27.8	28.8	29.2
6H	28.2	29.1	28.6	29.5	29.8	28.1	29.0	28.5	29.3	29.7
8H	28.3	29.2	28.7	29.6	30.0	28.3	29.1	28.7	29.5	29.9
12H	28.4	29.2	28.9	29.6	30.0	28.4	29.2	28.8	29.6	30.0
8H 4H	27.9	28.8	28.3	29.1	29.5	27.7	28.6	28.2	29.0	29.4
6H	28.6	29.3	29.0	29.7	30.1	28.5	29.2	28.9	29.6	30.0
8H	28.8	29.5	29.3	29.9	30.3	28.8	29.4	29.2	29.9	30.3
12H	29.0	29.5	29.5	30.0	30.5	29.0	29.6	29.5	30.0	30.5
12H 4H	27.9	28.7	28.3	29.1	29.5	27.8	28.6	28.2	29.0	29.4
6H	28.6	29.3	29.1	29.7	30.2	28.5	29.2	29.0	29.6	30.1
8H	28.9	29.5	29.4	29.9	30.4	28.9	29.4	29.4	29.9	30.4
Variations with the observer position at spacings:										
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 / - 0.2					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 4305 lm Total Lamp Luminous Flux. (8log(F/F0) = 5.1)

C Range: 0 - 360DEG

C Interval: 22.5DEG

Test Speed: HIGH

Temperature:25.3DEG

Operators:JEFF

Test Date:21 September 2023

γ Range: 0 - 90DEG

γ Interval: 1.0DEG

Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295

Humidity:65.0%

Test Distance:7.892m [K=1.0000]

Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:239.9V I:0.2069A P:48.35W PF:0.9738 Lamp Flux:4305.23x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_500mA_3000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

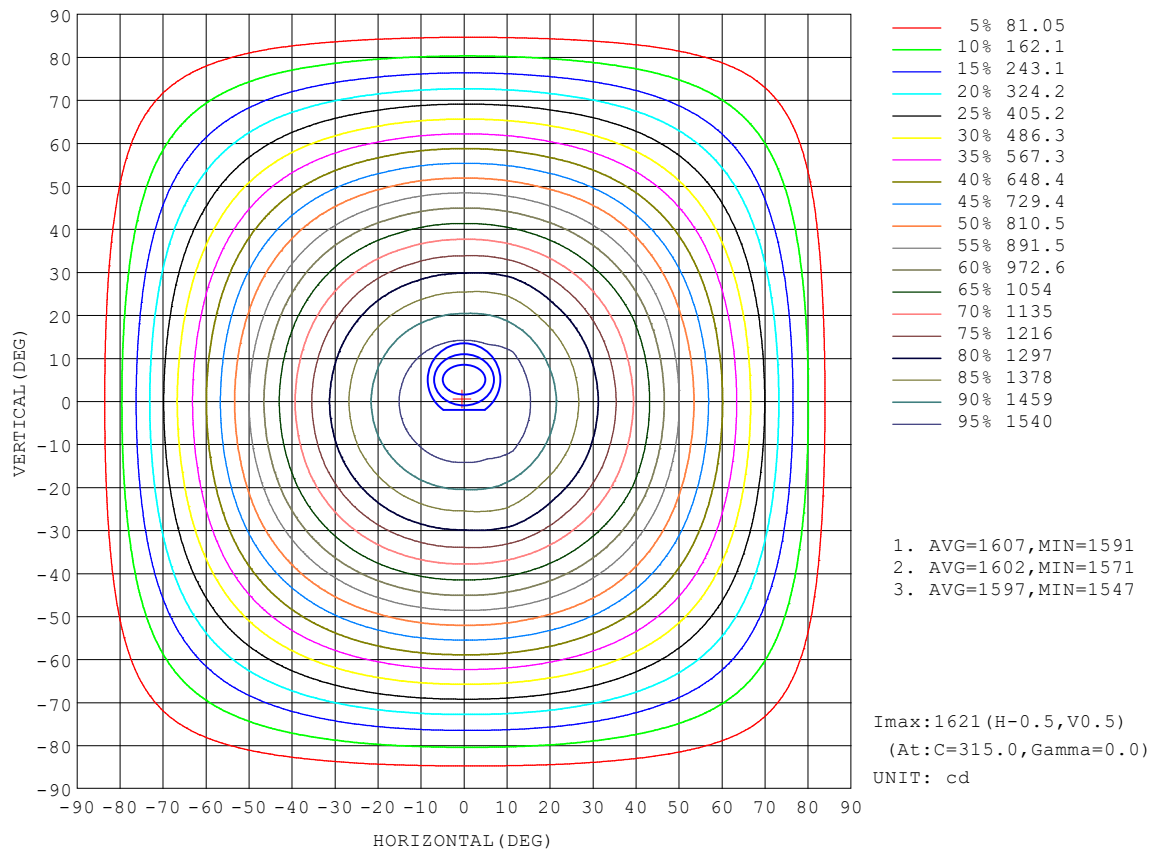
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	58	47	40	58	47	40	57	46	40	33
0.80	68	57	50	67	57	50	66	56	49	42
1.00	77	66	59	76	65	58	73	67	58	51
1.25	84	73	66	82	73	66	80	71	65	58
1.50	89	79	72	87	78	72	84	76	70	63
2.00	95	87	81	94	86	80	90	84	78	71
2.50	99	92	86	97	90	85	93	88	83	75
3.00	103	96	90	100	94	89	96	91	87	79
4.00	106	101	96	104	99	95	100	96	92	83
5.00	109	104	100	106	102	99	102	98	95	86
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: JEFF  
Test Date: 21 September 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 7.892m [K=1.0000]  
Remarks:

# ISOCANDELA DIAGRAM

Test:U:239.9V I:0.2069A P:48.35W PF:0.9738 Lamp Flux:4305.23x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_500mA_3000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



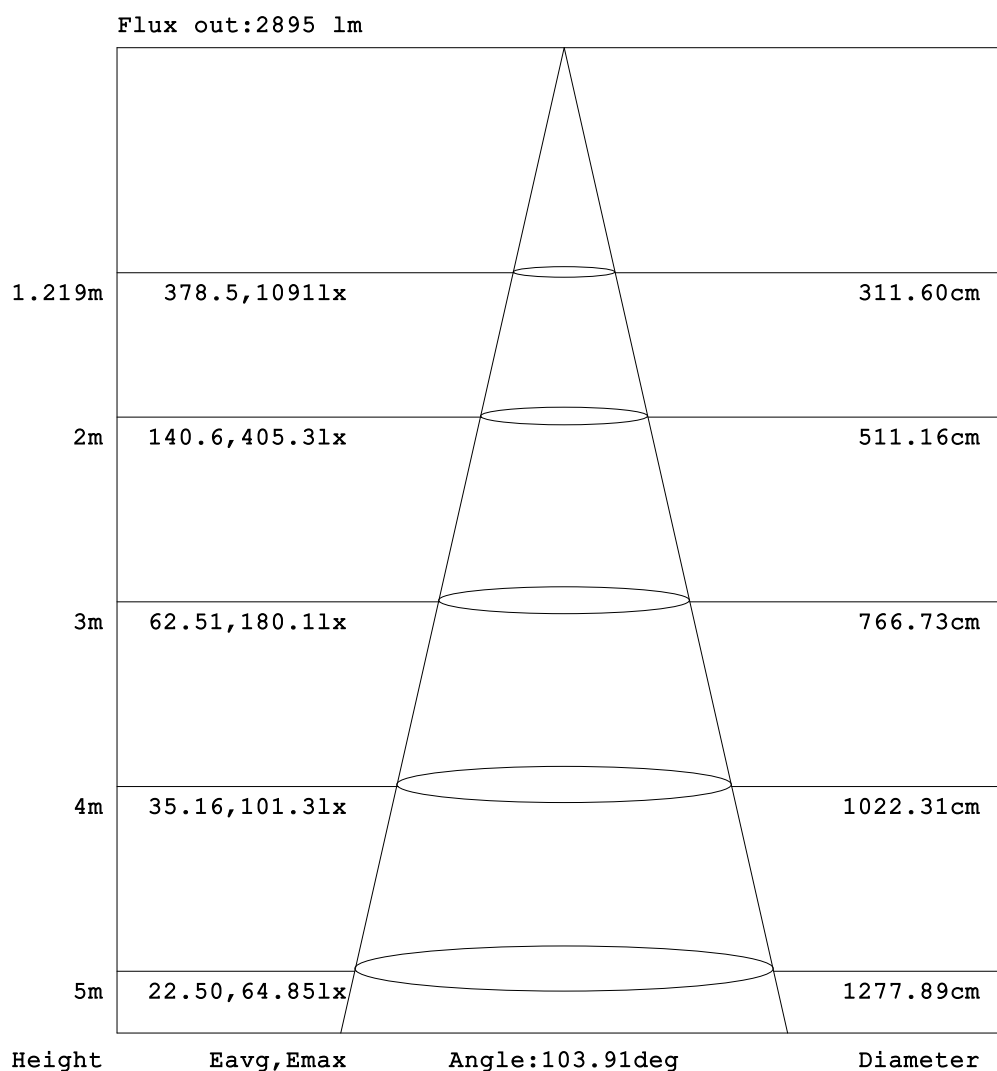
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:21 September 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.892m [K=1.0000]  
Remarks:



**AAI Figure**

Test:U:239.9V I:0.2069A P:48.35W PF:0.9738 Lamp Flux:4305.23x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_500mA_3000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



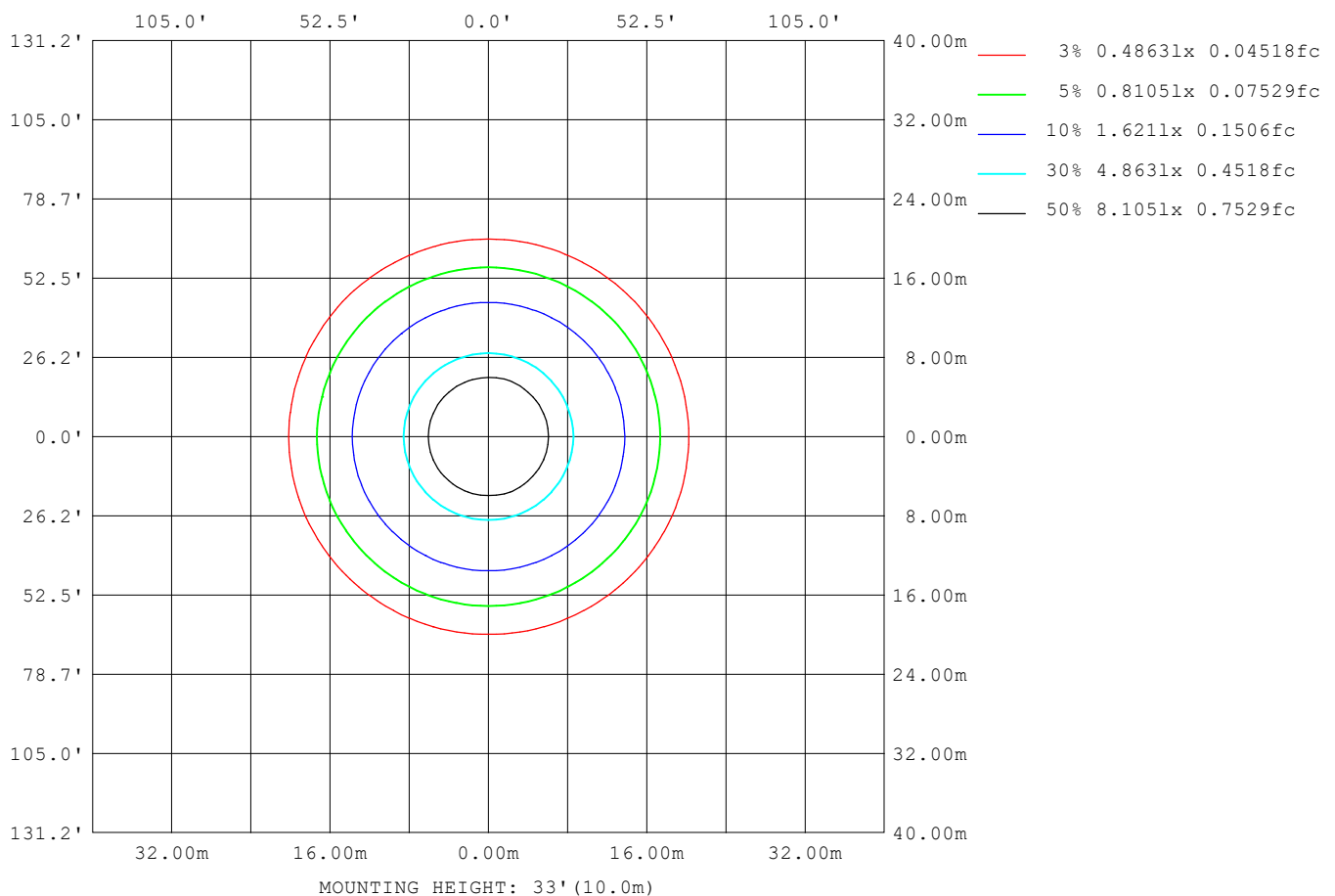
**Note:**The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: JEFF  
Test Date: 21 September 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 7.892m [K=1.0000]  
Remarks:

**ISOLUX DIAGRAM**

Test:U:239.9V I:0.2069A P:48.35W PF:0.9738 Lamp Flux:4305.23x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_500mA_3000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:21 September 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.892m [K=1.0000]  
Remarks:

### LED Avg.L Report

Test:U:239.9V I:0.2069A P:48.35W PF:0.9738 Lamp Flux:4305.23x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_500mA_3000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

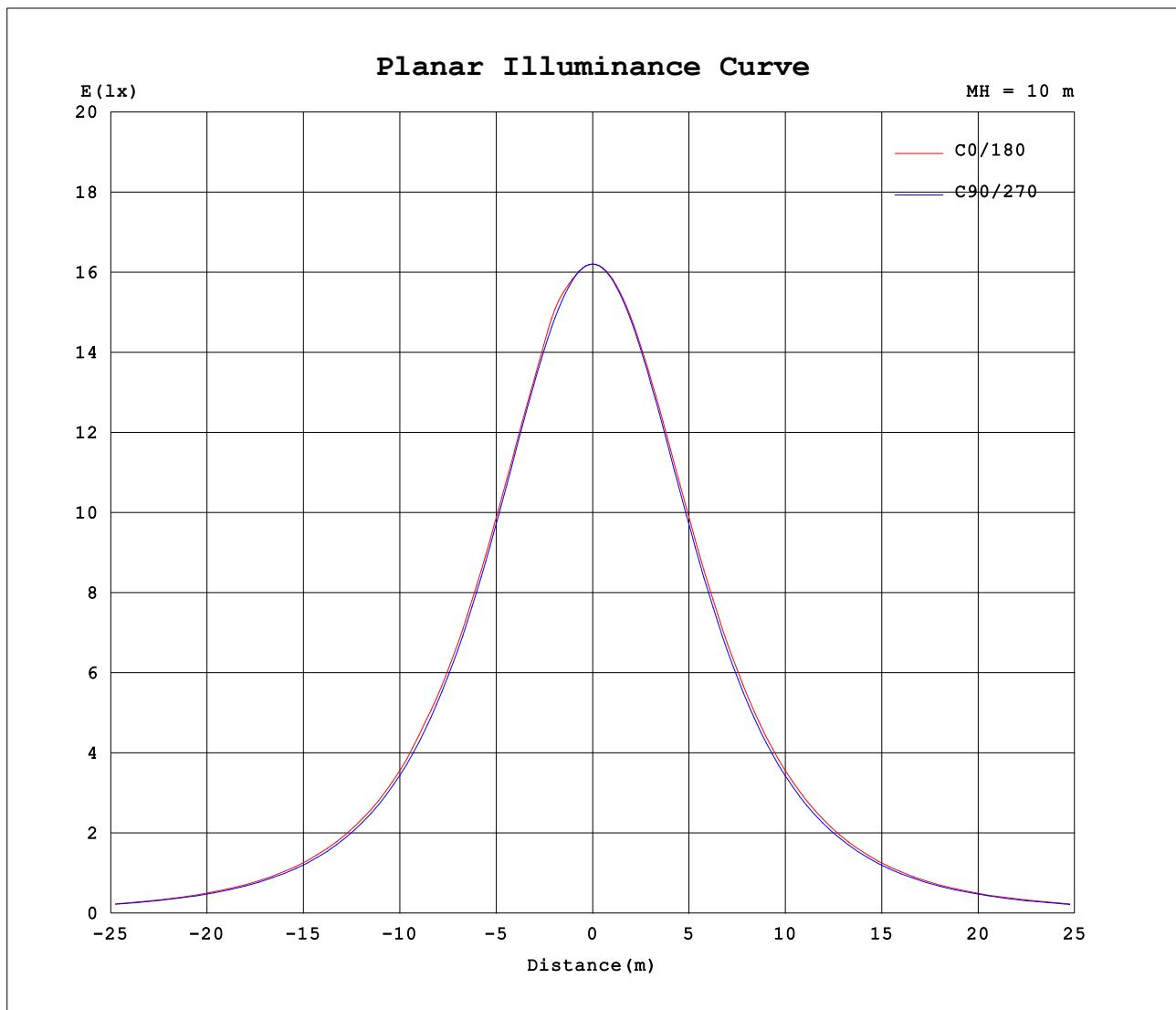
AvgL	cd/m2
L_0~180 (65) av	27834
L_0~180 (75) av	23896
L_0~180 (85) av	14787
L_90~270 (65) av	26521
L_90~270 (75) av	23607
L_90~270 (85) av	19445
L_45 (65) av	27052
L_45 (75) av	23715
L_45 (85) av	18332

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:21 September 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.892m [K=1.0000]  
Remarks:

### Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: JEFF  
Test Date: 21 September 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 7.892m [K=1.0000]  
Remarks:

