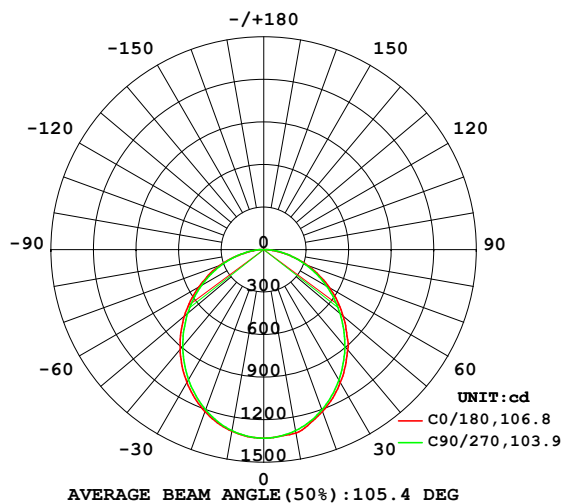


**LUMINAIRE PHOTOMETRIC TEST REPORT**

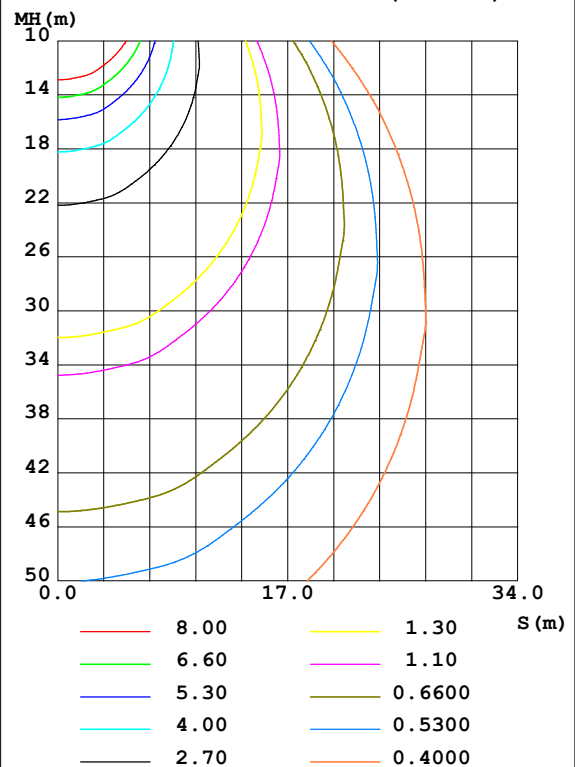
Test:U:240.0V I:0.1666A P:38.45W PF:0.9614 Lamp Flux:3531.28x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_400mA_3000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 91.85 lm/W			
LED MODULE	2400lm 930 HV ADV5	Imax(cd)	1330	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)	3531.3	$\eta$ UP,DN(C0-180)	0.0,50.1
NOMINAL FLUX(lm)	3531.28	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	1313	1301	1296	1299	1300	1299	1296	1301	0- 10	125.5	125.5	3.55,3.55
20	1214	1215	1202	1209	1215	1208	1202	1215	10- 20	355.9	481.4	13.6,13.6
30	1082	1071	1062	1073	1083	1072	1060	1071	20- 30	527.9	1009	28.6,28.6
40	922.7	903.6	891.2	904.5	918.2	903.4	888.9	902.8	30- 40	620.1	1629	46.1,46.1
50	732.7	718.5	703.9	717.4	731.0	715.6	701.0	717.2	40- 50	626.7	2256	63.9,63.9
60	534.7	521.9	510.4	519.5	530.1	517.8	507.3	520.3	50- 60	553.8	2810	79.6,79.6
70	330.8	323.9	317.8	320.2	329.1	318.5	314.9	322.3	60- 70	416.3	3226	91.4,91.4
80	134.3	139.1	139.7	135.0	125.4	133.6	137.4	137.6	70- 80	238.7	3465	98.1,98.1
90	1.079	5.689	7.291	5.079	1.027	4.996	7.041	5.306	80- 90	66.33	3531	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): 1947.3 lm

%lum = 55.1%

%lamp = 55.1%

Conical surface Flux(120deg): 2809.9 lm

%lum = 79.6%

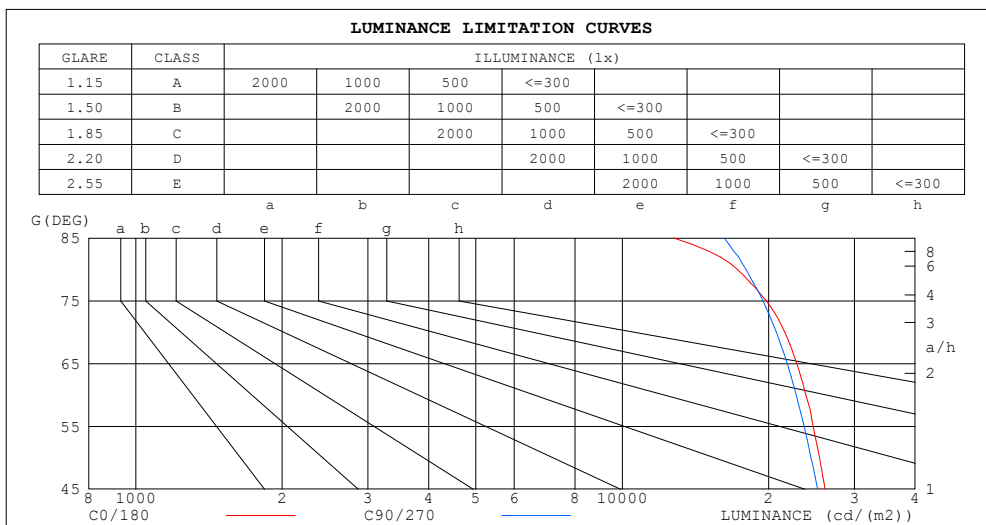
%lamp = 79.6%

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:240.0V I:0.1666A P:38.45W PF:0.9614 Lamp Flux:3531.28x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_400mA_3000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	12754	16203
80	17250	17965
75	19770	19463
70	21577	20745
65	22853	21837
60	23858	22789
55	24700	23649
50	25433	24445
45	26113	25235

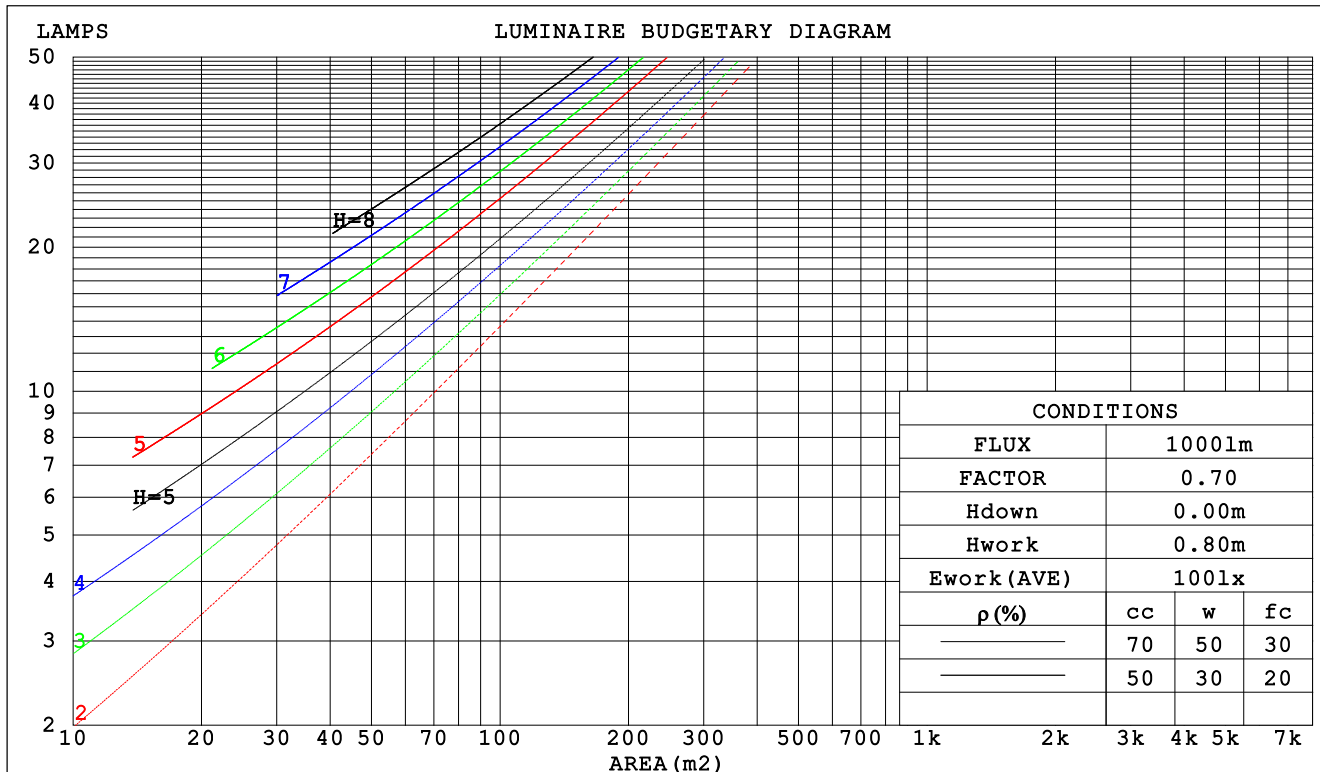
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:21 September 2023

$\gamma$  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:240.0V I:0.1666A P:38.45W PF:0.9614 Lamp Flux:3531.28x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_400mA_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	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
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:240.0V I:0.1666A P:38.45W PF:0.9614 Lamp Flux:3531.28x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_400mA_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	.045	.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:240.0V I:0.1666A P:38.45W PF:0.9614 Lamp Flux:3531.28x1 lm											
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_400mA_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	2H	24.0	25.5	24.2	25.7	25.9	23.8	25.3	24.0	25.5	25.7
	3H	25.5	26.8	25.8	27.1	27.3	25.2	26.6	25.5	26.9	27.1
	4H	26.0	27.4	26.4	27.6	27.9	25.8	27.2	26.2	27.4	27.7
	6H	26.4	27.7	26.8	28.0	28.2	26.3	27.5	26.6	27.8	28.1
	8H	26.6	27.8	26.9	28.1	28.3	26.4	27.6	26.8	27.9	28.2
	12H	26.6	27.8	27.0	28.1	28.4	26.5	27.7	26.9	28.0	28.3
4H	2H	24.5	25.9	24.9	26.1	26.4	24.4	25.7	24.7	26.0	26.2
	3H	26.2	27.4	26.6	27.7	28.0	26.0	27.2	26.4	27.5	27.8
	4H	26.9	28.0	27.3	28.3	28.6	26.8	27.8	27.2	28.2	28.5
	6H	27.5	28.4	27.9	28.8	29.1	27.4	28.3	27.8	28.6	29.0
	8H	27.6	28.5	28.1	28.9	29.3	27.6	28.4	28.0	28.8	29.2
	12H	27.7	28.5	28.2	28.9	29.3	27.7	28.5	28.1	28.9	29.3
8H	4H	27.2	28.1	27.6	28.4	28.8	27.1	27.9	27.5	28.3	28.7
	6H	27.9	28.6	28.3	29.0	29.4	27.8	28.5	28.2	28.9	29.3
	8H	28.1	28.8	28.6	29.2	29.6	28.1	28.7	28.5	29.2	29.6
	12H	28.3	28.8	28.8	29.3	29.8	28.3	28.9	28.8	29.3	29.8
12H	4H	27.2	28.0	27.6	28.4	28.8	27.1	27.9	27.5	28.3	28.7
	6H	27.9	28.6	28.4	29.0	29.5	27.9	28.5	28.3	28.9	29.4
	8H	28.2	28.8	28.7	29.2	29.7	28.2	28.7	28.7	29.2	29.7
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 3531 lm Total Lamp Luminous Flux. (8log(F/F0) = 4.4)

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:240.0V I:0.1666A P:38.45W PF:0.9614 Lamp Flux:3531.28x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_400mA_3000K CRI90		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

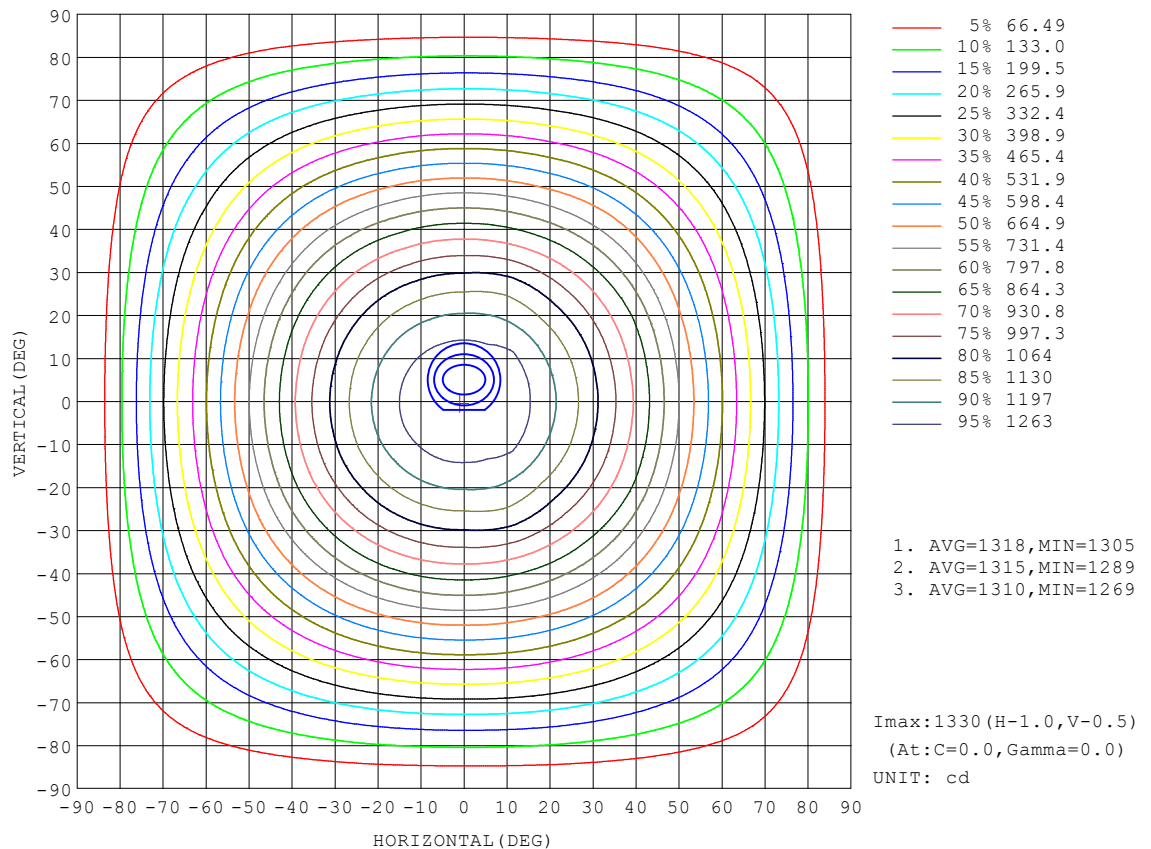
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	58	47	40	58	47	40	57	46	40	33
0.80	68	57	50	67	57	50	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	99	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:240.0V I:0.1666A P:38.45W PF:0.9614 Lamp Flux:3531.28x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_400mA_3000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



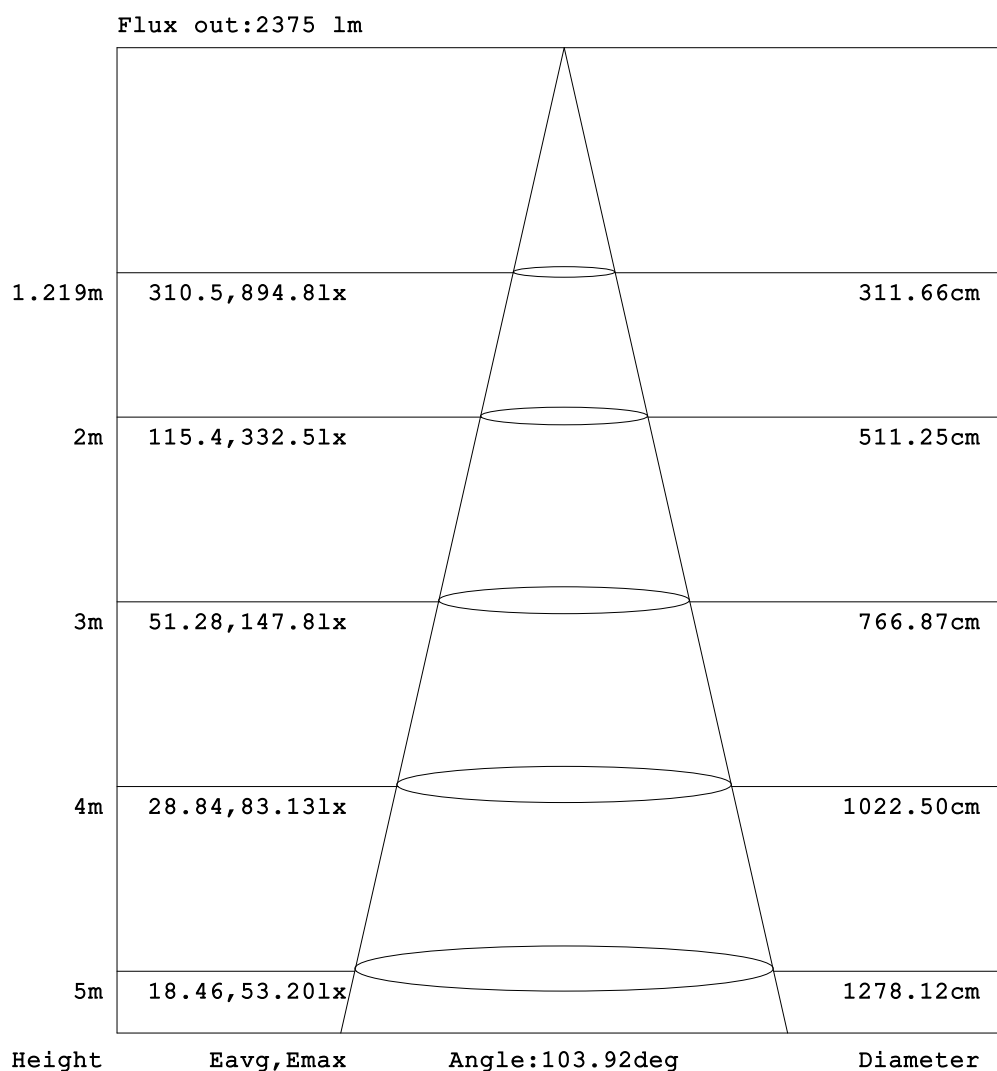
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:21 September 2023

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:240.0V I:0.1666A P:38.45W PF:0.9614 Lamp Flux:3531.28x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_400mA_3000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



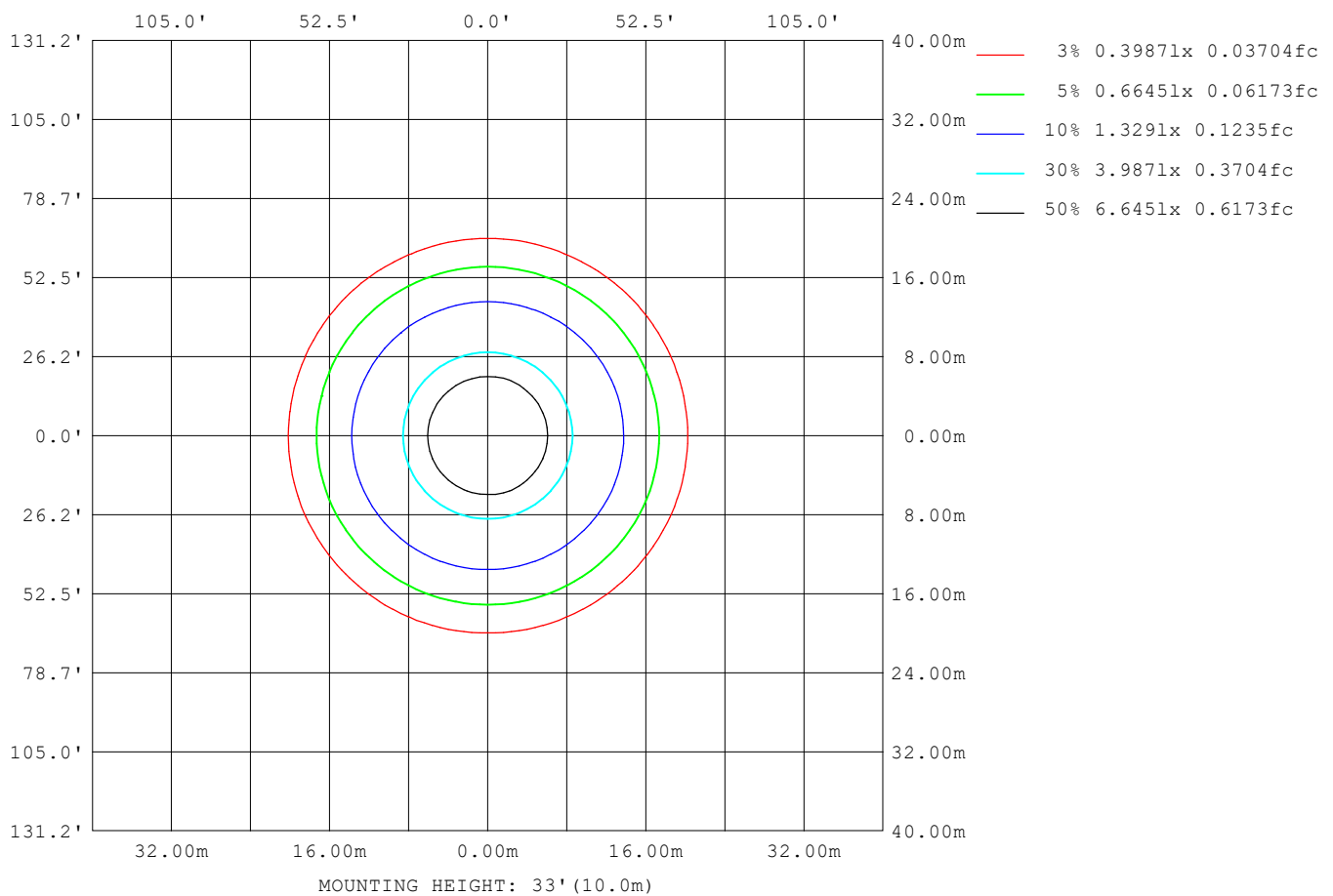
**Note:**The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:240.0V I:0.1666A P:38.45W PF:0.9614 Lamp Flux:3531.28x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_400mA_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:240.0V I:0.1666A P:38.45W PF:0.9614 Lamp Flux:3531.28x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_H0_400mA_3000K CRI90		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

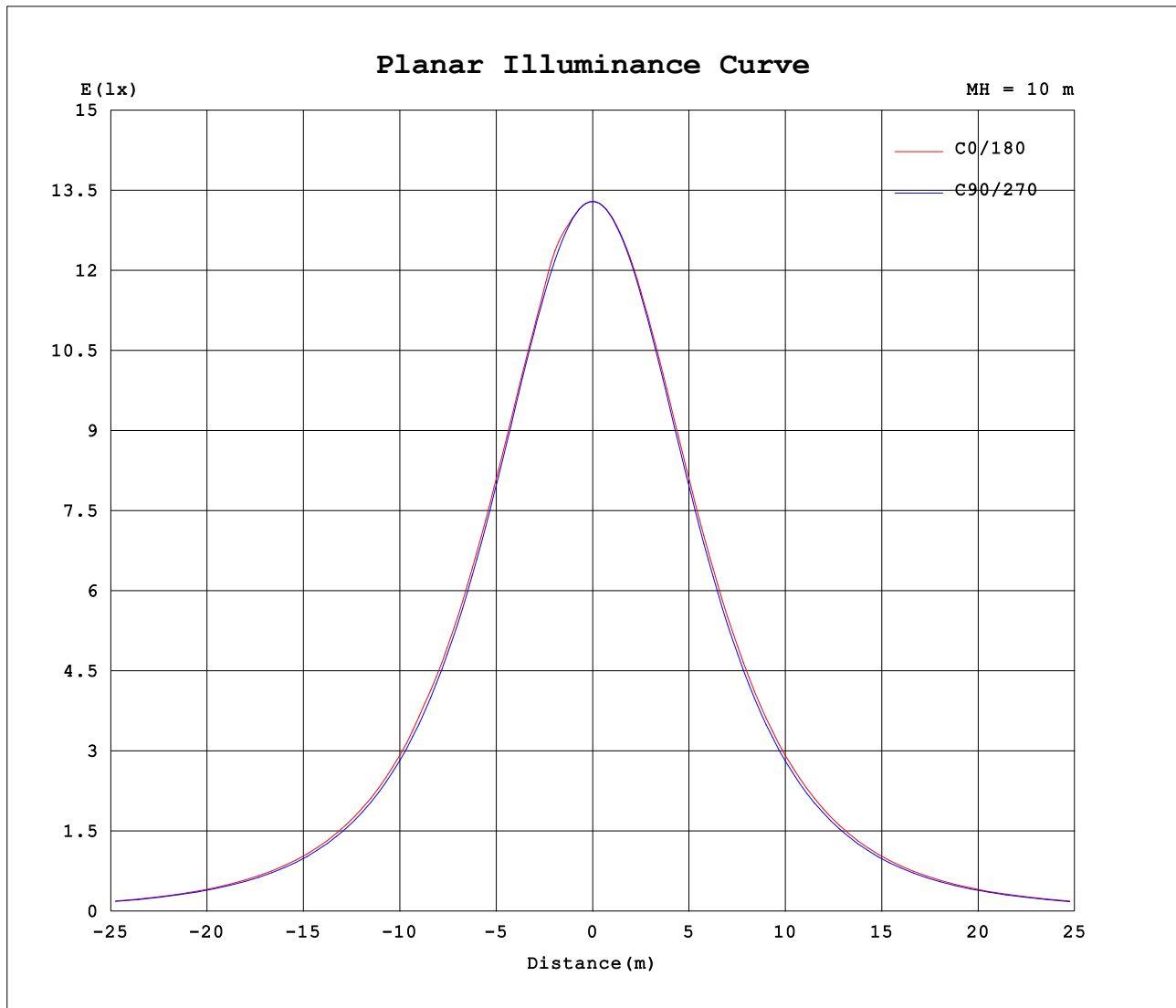
AvgL	cd/m2
L_0~180 (65) av	22818
L_0~180 (75) av	19585
L_0~180 (85) av	12120
L_90~270 (65) av	21748
L_90~270 (75) av	19355
L_90~270 (85) av	15942
L_45 (65) av	22188
L_45 (75) av	19445
L_45 (85) av	15036

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:

