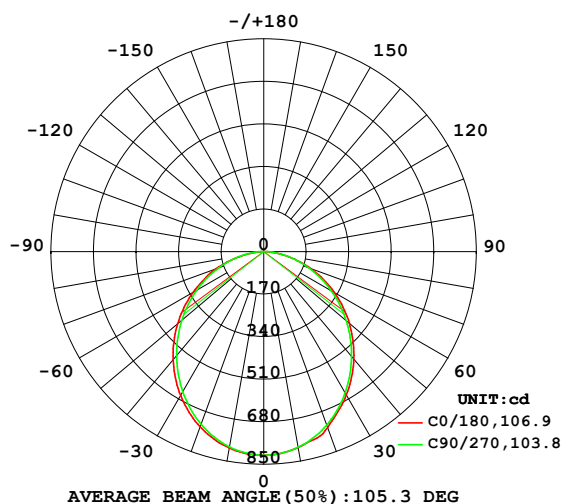


## LUMINAIRE PHOTOMETRIC TEST REPORT

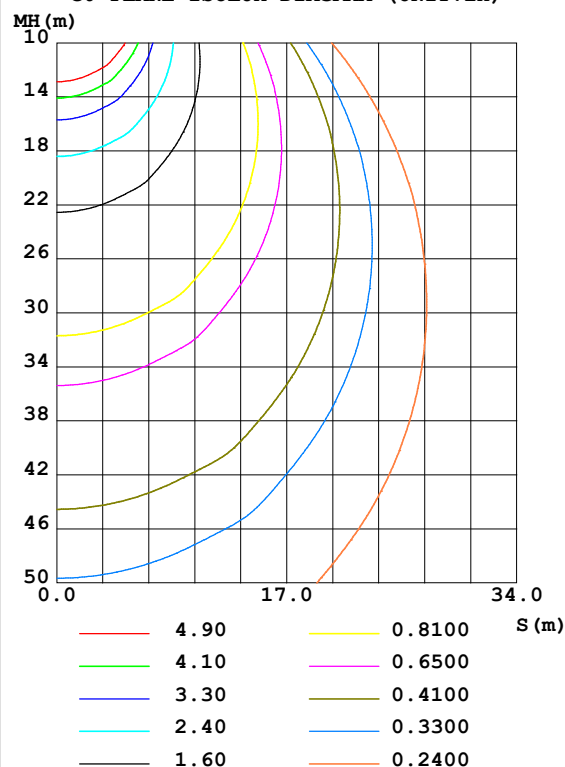
Test:U:240.1V I:0.1016A P:22.22W PF:0.9113 Lamp Flux:2158.31x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_HE_300mA_4000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 97.14 lm/W			
LED MODULE	1300lm 940 HV ADV5	Imax(cd)	813.7	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)	2158.3	$\eta$ UP,DN(C0-180)	0.0,50.1
NOMINAL FLUX(lm)	2158.31	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: 01 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	794.7	794.2	794.3	796.1	796.7	794.6	792.2	792.9	0- 10	76.75	76.75	3.56,3.56
20	747.6	741.8	737.3	742.2	744.8	739.8	733.7	739.4	10- 20	217.6	294.4	13.6,13.6
30	661.1	657.3	651.3	659.0	664.6	655.9	647.1	654.5	20- 30	323.2	617.5	28.6,28.6
40	560.3	552.6	546.5	555.9	563.7	552.8	542.3	550.0	30- 40	379.4	997.0	46.2,46.2
50	447.6	438.2	431.0	440.7	449.4	438.2	427.8	436.1	40- 50	383.7	1381	64,64
60	325.6	317.6	311.2	318.7	326.1	317.4	309.4	316.4	50- 60	338.5	1719	79.6,79.6
70	200.8	195.9	192.6	195.7	204.1	195.3	191.9	195.6	60- 70	254.0	1973	91.4,91.4
80	81.28	83.31	83.72	82.00	78.03	82.18	83.77	83.32	70- 80	145.2	2118	98.1,98.1
90	0.6492	2.978	3.840	2.725	0.6088	1.768	2.534	2.028	80- 90	40.07	2158	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): 1191.6 lm

%lum = 55.2%

%lamp = 55.2%

Conical surface Flux(120deg): 1719.1 lm

%lum = 79.6%

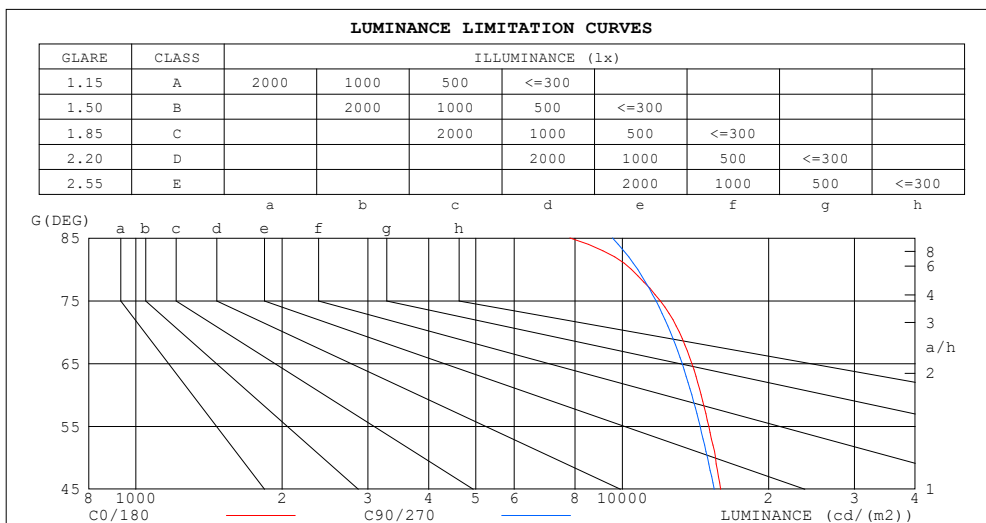
%lamp = 79.6%

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:01 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:240.1V I:0.1016A P:22.22W PF:0.9113 Lamp Flux:2158.31x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_HE_300mA_4000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



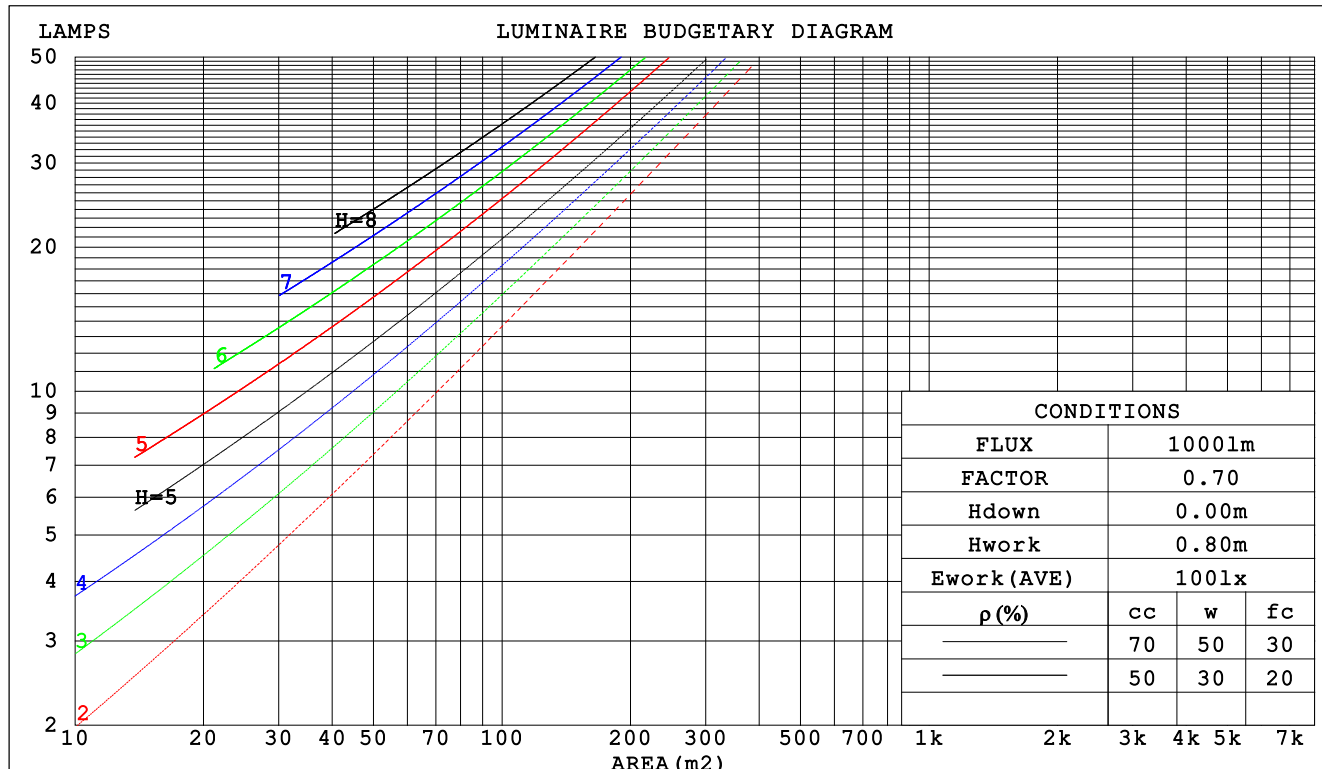
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: JEFF  
Test Date: 01 September 2023

$\gamma$  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:240.1V I:0.1016A P:22.22W PF:0.9113 Lamp Flux:2158.31x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_HE_300mA_4000K 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	.76	.72	.70
3.0	.80	.72	.65	.78	.71	.65	.75	.69	.64	.73	.67	.63	.70	.65	.61	.59
4.0	.71	.62	.56	.70	.61	.55	.67	.60	.54	.65	.59	.54	.63	.57	.53	.51
5.0	.63	.55	.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	.38	.33	.43	.37	.32	.31
9.0	.44	.35	.30	.43	.35	.30	.42	.35	.30	.41	.34	.29	.40	.34	.29	.28
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:01 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:240.1V I:0.1016A P:22.22W PF:0.9113 Lamp Flux:2158.31x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_HE_300mA_4000K 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	.305	.174	.055	.298	.170	.054	.285	.163	.052	.273	.157	.050	.262	.152	.049		
2.0	.287	.158	.048	.281	.155	.048	.270	.150	.047	.259	.145	.045	.249	.141	.044		
3.0	.266	.142	.042	.261	.140	.042	.250	.136	.041	.241	.132	.040	.232	.128	.040		
4.0	.246	.128	.038	.241	.126	.037	.232	.123	.037	.223	.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	.207	.105	.030	.200	.103	.030	.193	.101	.030	.187	.099	.029		
7.0	.197	.097	.028	.193	.096	.027	.187	.094	.027	.181	.093	.027	.175	.091	.027		
8.0	.184	.090	.025	.181	.089	.025	.175	.087	.025	.170	.086	.025	.165	.084	.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	.099	.147	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011	
3.0	.164	.114	.075	.140	.099	.065	.096	.068	.046	.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:01 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:240.1V I:0.1016A P:22.22W PF:0.9113 Lamp Flux:2158.31x1 lm										
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_HE_300mA_4000K 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	22.2	23.7	22.5	23.9	24.1	22.0	23.5	22.3	23.8	24.0
3H	23.7	25.1	24.0	25.3	25.6	23.5	24.9	23.8	25.1	25.4
4H	24.3	25.6	24.6	25.9	26.1	24.1	25.4	24.4	25.7	25.9
6H	24.7	25.9	25.0	26.2	26.5	24.5	25.8	24.9	26.0	26.3
8H	24.8	26.0	25.2	26.3	26.6	24.7	25.9	25.0	26.2	26.5
12H	24.9	26.0	25.2	26.3	26.6	24.8	25.9	25.1	26.2	26.5
4H 2H	22.8	24.1	23.1	24.4	24.6	22.7	24.0	23.0	24.2	24.5
3H	24.5	25.6	24.8	25.9	26.2	24.3	25.5	24.7	25.8	26.1
4H	25.2	26.2	25.6	26.6	26.9	25.0	26.1	25.4	26.4	26.7
6H	25.7	26.6	26.1	27.0	27.4	25.6	26.5	26.0	26.9	27.2
8H	25.9	26.7	26.3	27.1	27.5	25.8	26.7	26.2	27.0	27.4
12H	26.0	26.8	26.4	27.2	27.6	25.9	26.7	26.4	27.1	27.5
8H 4H	25.4	26.3	25.8	26.7	27.1	25.3	26.2	25.7	26.5	26.9
6H	26.1	26.8	26.5	27.2	27.7	26.0	26.7	26.4	27.1	27.6
8H	26.4	27.0	26.8	27.4	27.9	26.3	26.9	26.8	27.4	27.8
12H	26.5	27.1	27.0	27.5	28.0	26.5	27.1	27.0	27.5	28.0
12H 4H	25.4	26.2	25.9	26.6	27.0	25.3	26.1	25.7	26.5	26.9
6H	26.2	26.8	26.6	27.2	27.7	26.1	26.7	26.5	27.1	27.6
8H	26.5	27.0	26.9	27.5	27.9	26.4	27.0	26.9	27.4	27.9
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 2158 lm Total Lamp Luminous Flux. (8log(F/F0) = 2.7)

C Range: 0 - 360DEG

C Interval: 22.5DEG

Test Speed: HIGH

Temperature:25.3DEG

Operators:JEFF

Test Date:01 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:240.1V I:0.1016A P:22.22W PF:0.9113 Lamp Flux:2158.31x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_HE_300mA_4000K CRI90		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

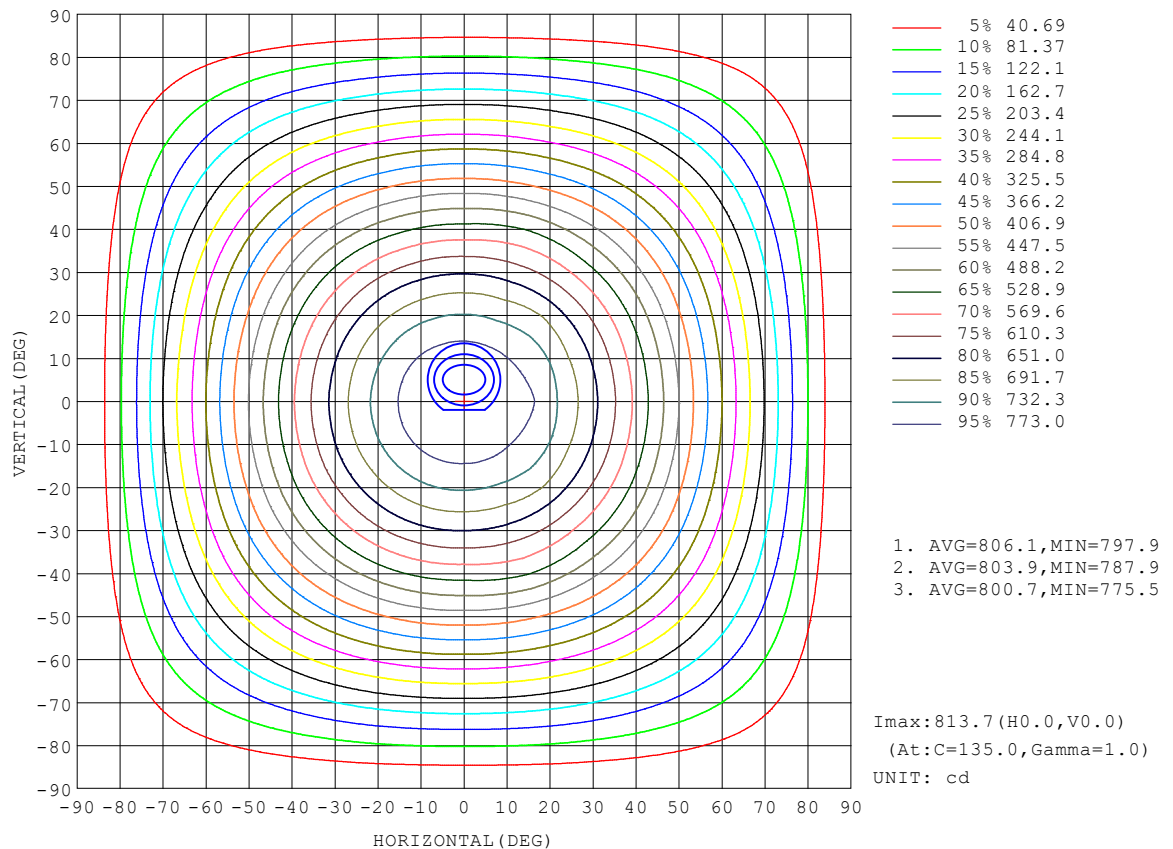
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	58	47	40	58	47	40	57	46	40	33
0.80	68	57	50	67	57	50	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	71	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: 01 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:240.1V I:0.1016A P:22.22W PF:0.9113 Lamp Flux:2158.31x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_HE_300mA_4000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



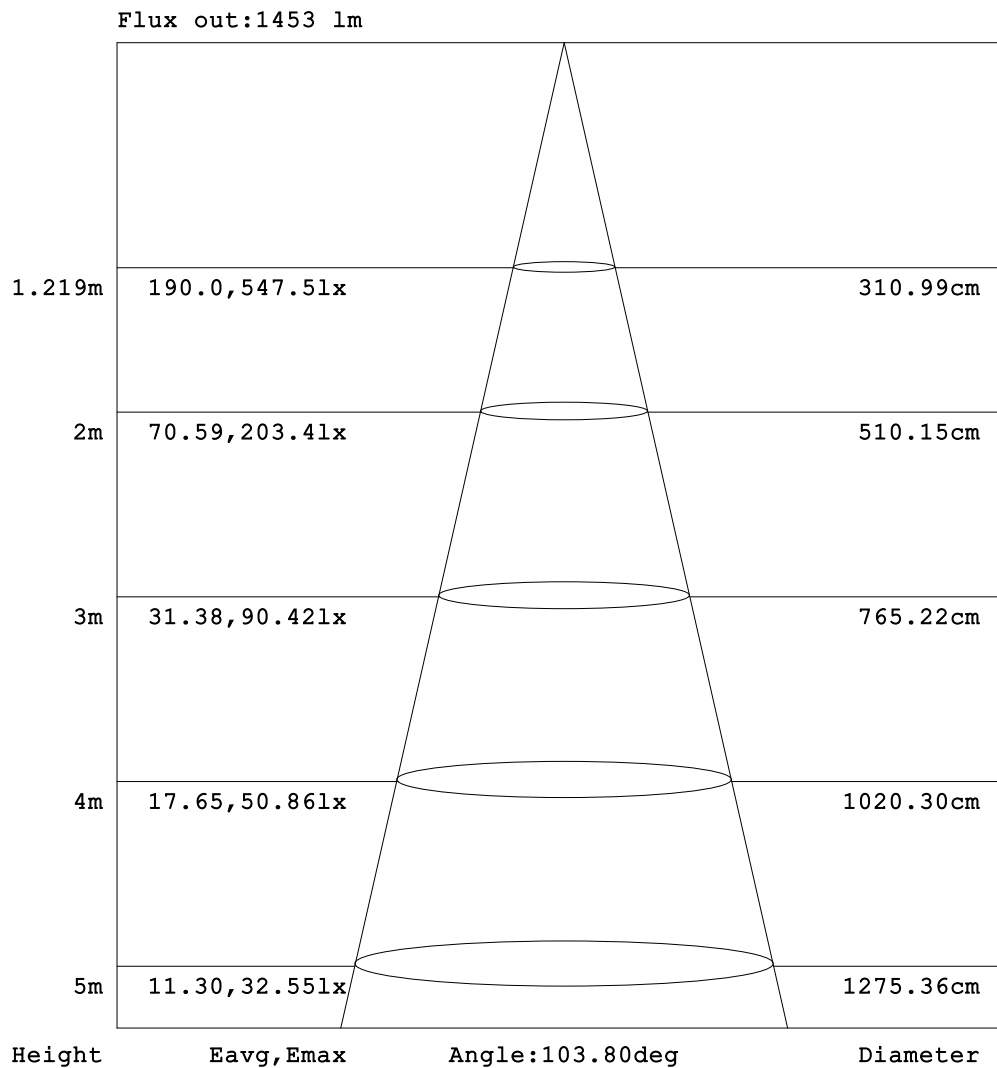
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:01 September 2023

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:240.1V I:0.1016A P:22.22W PF:0.9113 Lamp Flux:2158.31x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_HE_300mA_4000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



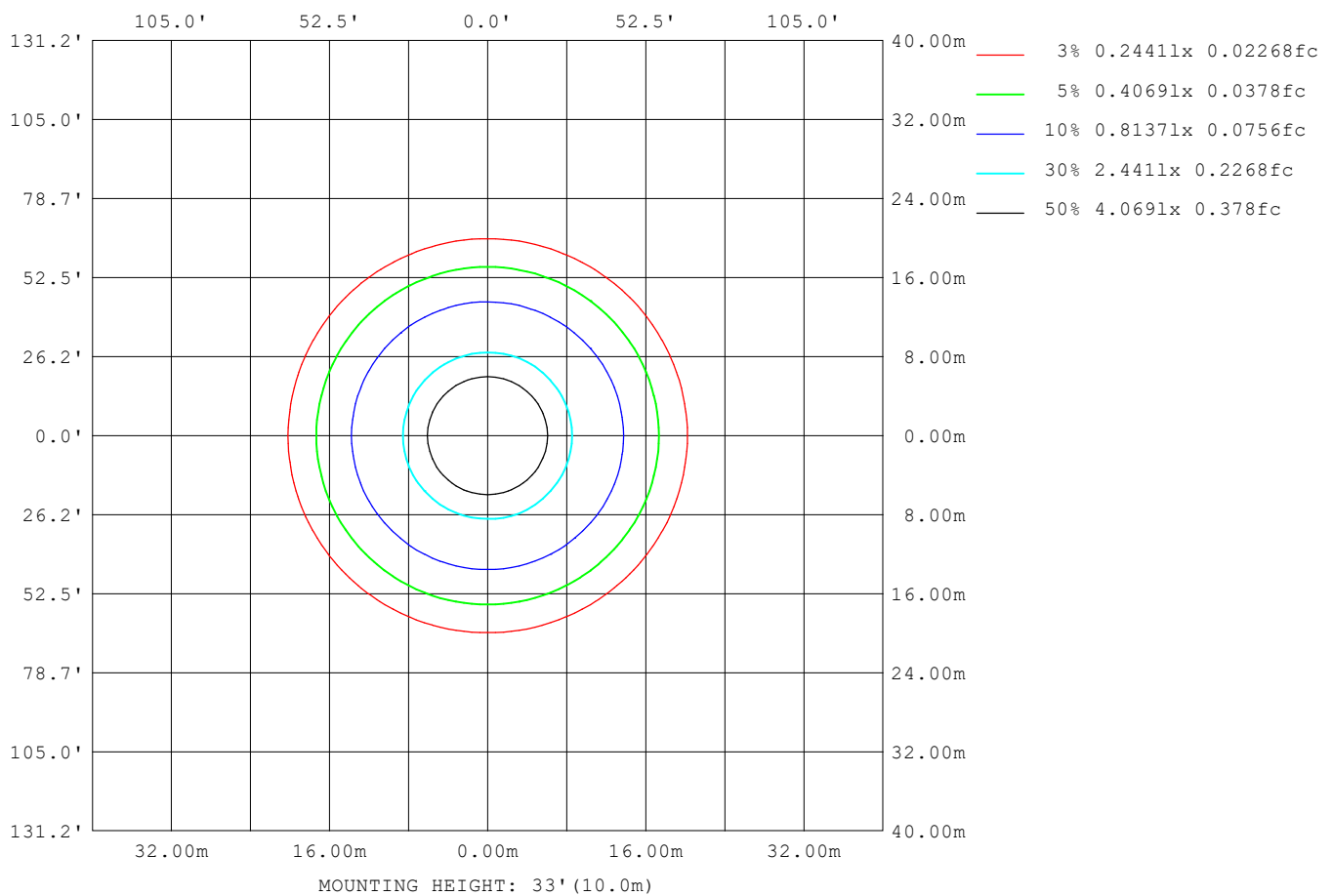
**Note:**The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:01 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:240.1V I:0.1016A P:22.22W PF:0.9113 Lamp Flux:2158.31x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_HE_300mA_4000K 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:01 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:240.1V I:0.1016A P:22.22W PF:0.9113 Lamp Flux:2158.31x1 lm		
NAME: FLATLINE_1296_SUS_WHT_UPLIGHT_OPAL V_HE_300mA_4000K CRI90		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

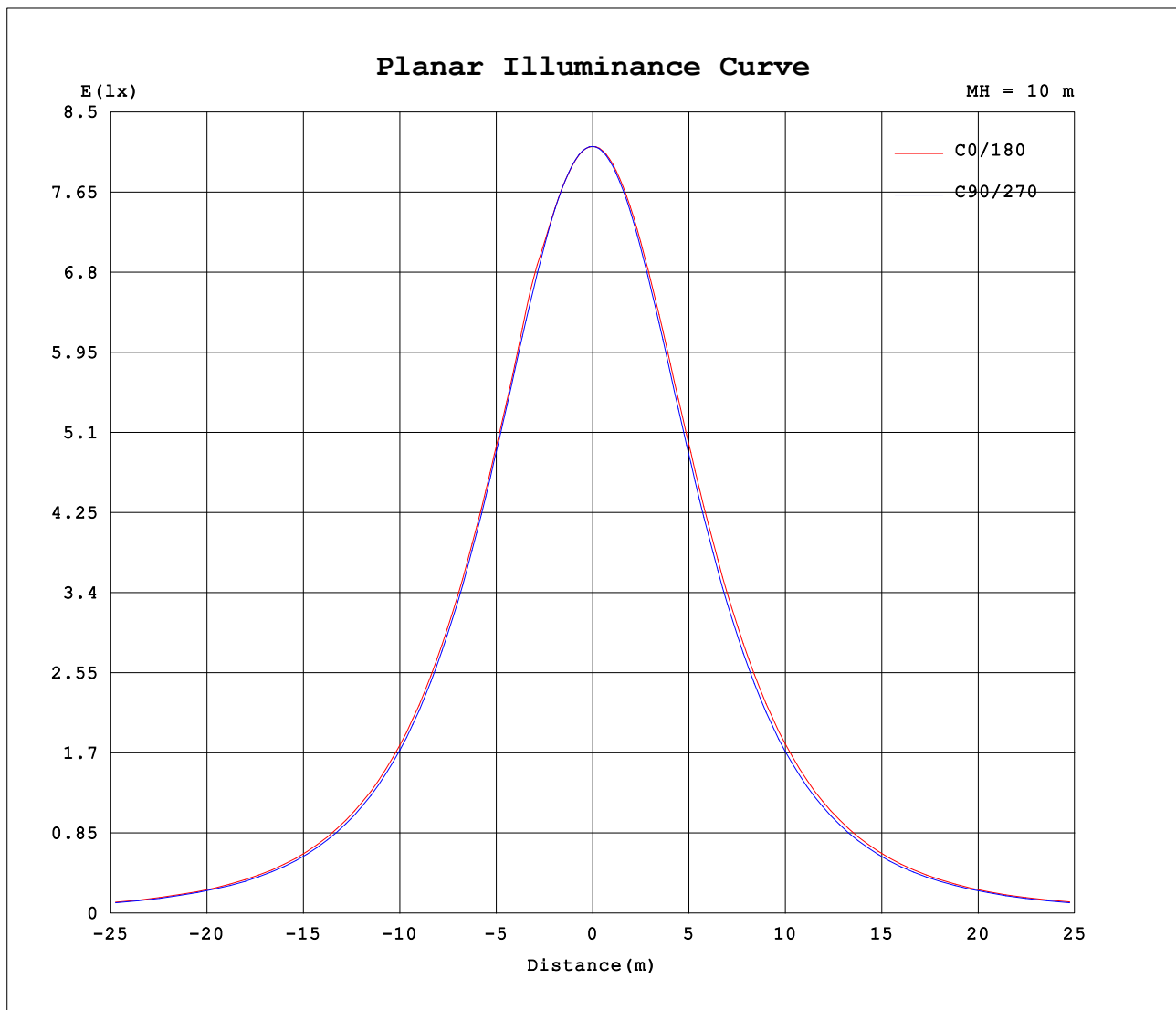
AvgL	cd/m2
L_0~180 (65) av	13877
L_0~180 (75) av	11859
L_0~180 (85) av	7439
L_90~270 (65) av	13243
L_90~270 (75) av	11727
L_90~270 (85) av	9546
L_45 (65) av	13533
L_45 (75) av	11812
L_45 (85) av	9082

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:01 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: 01 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:

