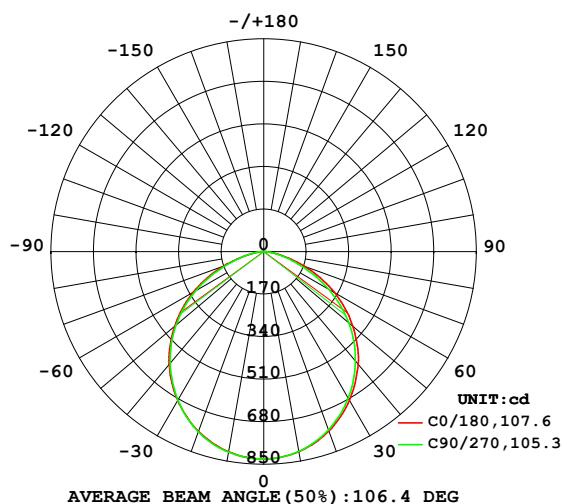


LUMINAIRE PHOTOMETRIC TEST REPORT

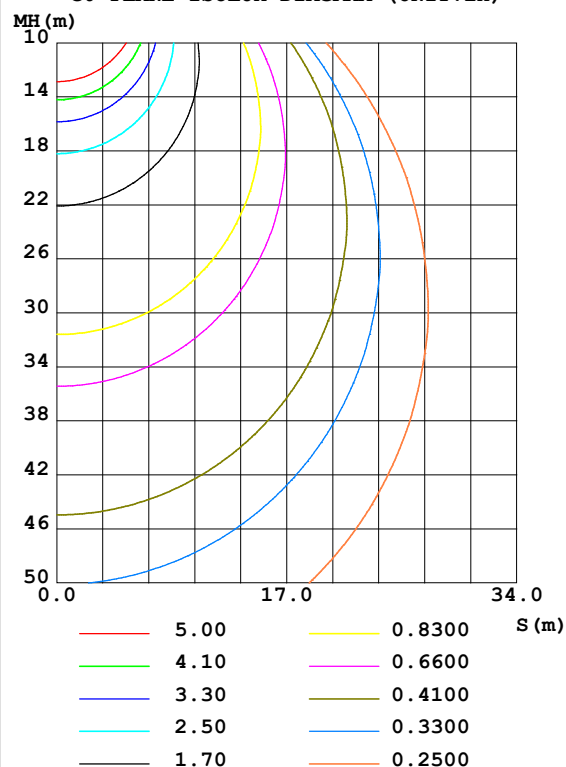
Test:U:239.9V I:0.1206A P:23.29W PF:0.8053 Lamp Flux:2149.22x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_450mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 92.28 lm/W			
MODEL: 20000mm	1300lm 940 HV ADV5	Imax(cd)	828.4	S/MH(C0/180)	1.24
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.23
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	2149.2	η UP,DN(C0-180)	0.0,49.6
NOMINAL FLUX(lm)	2149.22	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.4
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η 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:20 January 2023

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.995m [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	811.8	810.8	810.5	812.0	812.3	813.7	813.7	812.5	0- 10	78.31	78.31	3.64,3.64
20	762.8	759.2	757.8	762.1	764.0	768.3	766.2	765.8	10- 20	223.3	301.6	14,14
30	685.6	679.4	675.8	683.7	687.5	692.0	685.7	689.1	20- 30	335.1	636.7	29.6,29.6
40	587.2	576.6	570.7	581.4	588.7	589.5	582.1	586.4	30- 40	398.2	1035	48.2,48.2
50	465.0	452.7	444.3	458.0	465.4	468.0	457.7	463.8	40- 50	404.1	1439	67,67
60	326.9	309.5	298.1	314.4	325.6	325.9	313.4	321.5	50- 60	348.6	1788	83.2,83.2
70	173.8	155.7	146.6	160.1	172.0	170.0	158.3	166.3	60- 70	237.2	2025	94.2,94.2
80	48.35	44.34	43.33	46.36	46.53	49.55	47.65	47.99	70- 80	104.2	2129	99.1,99.1
90	0.8951	1.445	1.650	1.341	0.7205	1.761	2.262	1.749	80- 90	20.24	2149	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): 1240.2 lm

%lum = 57.7%

%lamp = 57.7%

Conical surface Flux(120deg): 1787.6 lm

%lum = 83.2%

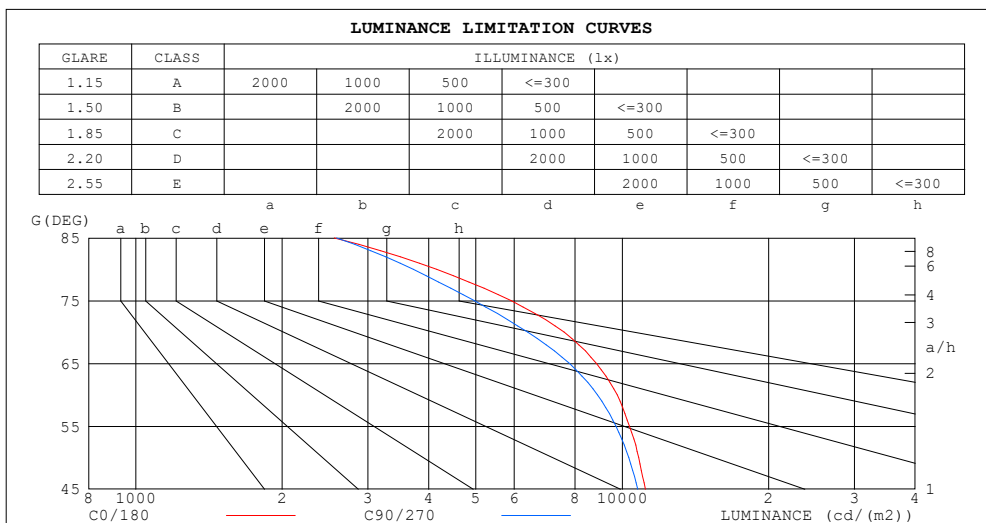
%lamp = 83.2%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 January 2023

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.995m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:239.9V I:0.1206A P:23.29W PF:0.8053 Lamp Flux:2149.22x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_450mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2561	2587
80	4158	3723
75	5912	4970
70	7590	6394
65	8851	7788
60	9763	8897
55	10353	9708
50	10803	10312
45	11161	10766

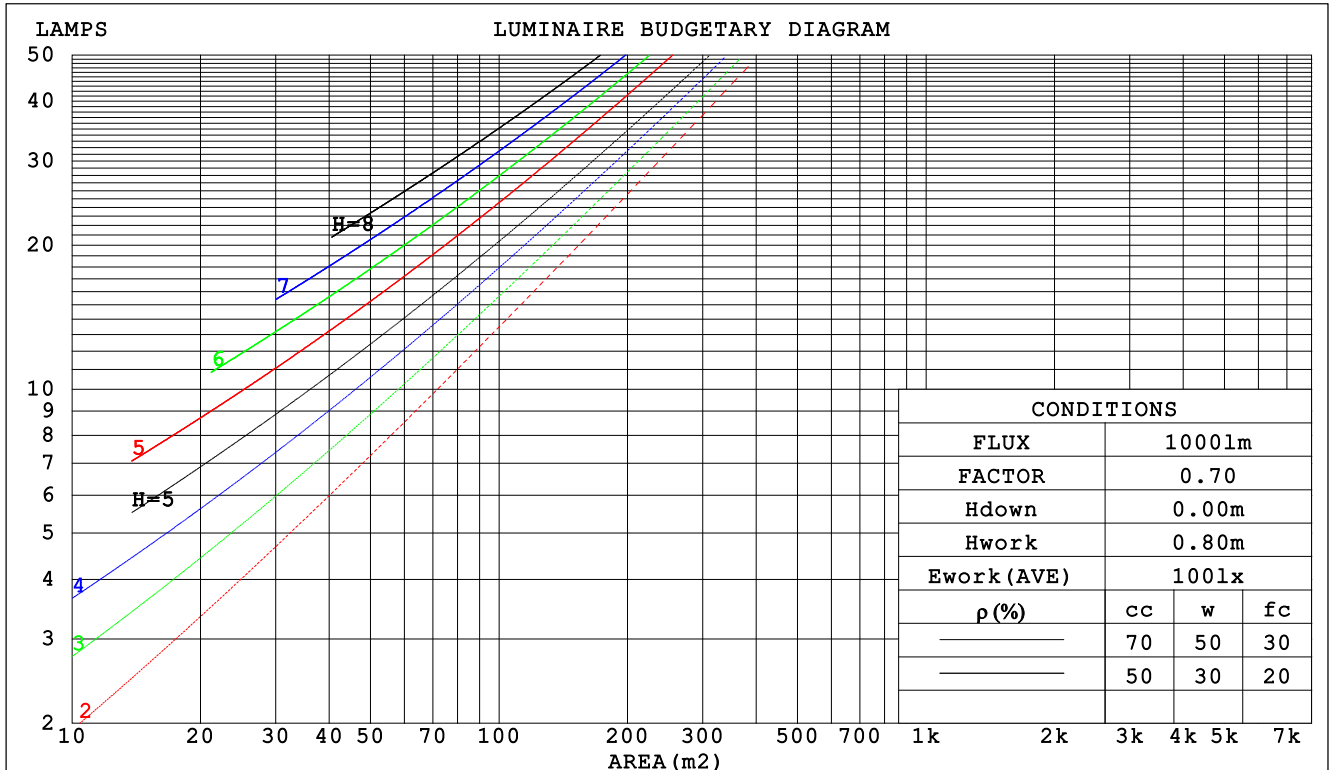
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 January 2023

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.995m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:239.9V I:0.1206A P:23.29W PF:0.8053 Lamp Flux:2149.22x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_450mA_4000K CRI90 TYPE:LED		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{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	1.05	1.01	.98	1.03	.99	.96	.99	.96	.93	.95	.92	.90	.91	.89	.88	.85
2.0	.92	.86	.80	.90	.85	.80	.87	.82	.78	.84	.80	.76	.81	.77	.74	.72
3.0	.81	.74	.67	.80	.73	.67	.77	.71	.66	.74	.69	.65	.72	.67	.63	.61
4.0	.72	.64	.57	.71	.63	.57	.69	.62	.56	.66	.60	.56	.64	.59	.55	.53
5.0	.65	.56	.50	.64	.56	.49	.62	.54	.49	.60	.53	.48	.58	.52	.48	.46
6.0	.58	.50	.43	.58	.49	.43	.56	.48	.43	.54	.48	.43	.53	.47	.42	.40
7.0	.53	.44	.38	.52	.44	.38	.51	.43	.38	.49	.43	.38	.48	.42	.38	.36
8.0	.48	.40	.34	.48	.40	.34	.46	.39	.34	.45	.39	.34	.44	.38	.34	.32
9.0	.45	.36	.31	.44	.36	.31	.43	.36	.31	.42	.35	.31	.41	.35	.30	.29
10.0	.41	.33	.28	.41	.33	.28	.40	.33	.28	.39	.32	.28	.38	.32	.28	.26



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 January 2023

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.995m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:239.9V I:0.1206A P:23.29W PF:0.8053 Lamp Flux:2149.22x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_450mA_4000K CRI90 TYPE:LED	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	.285	.162	.051	.278	.159	.050	.265	.152	.049	.253	.146	.047	.242	.140	.045		
2.0	.274	.150	.046	.268	.147	.045	.256	.142	.044	.245	.138	.043	.236	.133	.042		
3.0	.256	.136	.041	.251	.134	.040	.241	.131	.040	.231	.127	.039	.223	.123	.038		
4.0	.239	.124	.036	.234	.122	.036	.225	.119	.036	.217	.116	.035	.209	.113	.035		
5.0	.222	.113	.033	.218	.112	.033	.210	.109	.032	.203	.107	.032	.196	.104	.031		
6.0	.207	.104	.030	.203	.103	.030	.196	.101	.029	.190	.099	.029	.183	.097	.029		
7.0	.194	.096	.027	.190	.095	.027	.184	.093	.027	.178	.091	.027	.172	.089	.026		
8.0	.181	.089	.025	.178	.088	.025	.173	.086	.025	.167	.085	.024	.162	.083	.024		
9.0	.170	.082	.023	.168	.082	.023	.163	.080	.023	.158	.079	.023	.153	.078	.022		
10.0	.161	.077	.021	.158	.076	.021	.153	.075	.021	.149	.074	.021	.145	.073	.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	.179	.156	.136	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.170	.132	.100	.145	.114	.087	.100	.079	.060	.057	.046	.035	.018	.015	.012	
3.0	.162	.114	.076	.139	.099	.066	.095	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.053	.036	.022	.017	.012	.007	
5.0	.147	.090	.048	.126	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.140	.082	.040	.120	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.133	.075	.034	.115	.065	.030	.079	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.127	.069	.029	.109	.060	.026	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.121	.064	.026	.104	.056	.022	.072	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 January 2023

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.995m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:239.9V I:0.1206A P:23.29W PF:0.8053 Lamp Flux:2149.22x1 lm										
NAME: HIP IP67_1186_NA_WHT_OV_HE_450mA_4000K CRI90 TYPE:LED								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	21.0	22.4	21.2	22.6	22.8	20.6	22.1	20.9	22.3	22.5
3H	22.1	23.5	22.4	23.7	23.9	21.6	22.9	21.9	23.2	23.4
4H	22.4	23.7	22.8	24.0	24.2	21.8	23.1	22.2	23.4	23.6
6H	22.6	23.8	22.9	24.1	24.3	22.0	23.2	22.3	23.4	23.7
8H	22.6	23.8	22.9	24.0	24.3	22.0	23.1	22.3	23.4	23.7
12H	22.6	23.7	22.9	24.0	24.3	22.0	23.1	22.3	23.4	23.7
4H 2H	21.4	22.7	21.7	22.9	23.2	21.1	22.4	21.4	22.6	22.9
3H	22.7	23.8	23.0	24.1	24.4	22.2	23.3	22.6	23.6	23.9
4H	23.1	24.1	23.5	24.4	24.8	22.6	23.6	22.9	23.9	24.2
6H	23.3	24.2	23.7	24.6	24.9	22.8	23.7	23.2	24.0	24.4
8H	23.4	24.2	23.8	24.6	24.9	22.8	23.6	23.2	24.0	24.4
12H	23.4	24.1	23.8	24.5	24.9	22.8	23.6	23.2	24.0	24.4
8H 4H	23.2	24.0	23.6	24.4	24.8	22.7	23.5	23.1	23.9	24.3
6H	23.5	24.2	23.9	24.6	25.0	23.0	23.7	23.4	24.1	24.5
8H	23.6	24.2	24.0	24.6	25.0	23.0	23.7	23.5	24.1	24.5
12H	23.6	24.1	24.1	24.6	25.0	23.1	23.6	23.6	24.1	24.5
12H 4H	23.2	23.9	23.6	24.3	24.7	22.7	23.4	23.1	23.8	24.2
6H	23.5	24.1	23.9	24.5	25.0	23.0	23.6	23.4	24.0	24.5
8H	23.6	24.1	24.0	24.5	25.0	23.1	23.6	23.5	24.0	24.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.3				
1.5H	+ 0.2 / - 0.4					+ 0.2 / - 0.4				
2.0H	+ 0.4 / - 0.4					+ 0.4 / - 0.4				

CIE Pub.117 Corrected 2149 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:20 January 2023

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.995m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:239.9V I:0.1206A P:23.29W PF:0.8053 Lamp Flux:2149.22x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_450mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

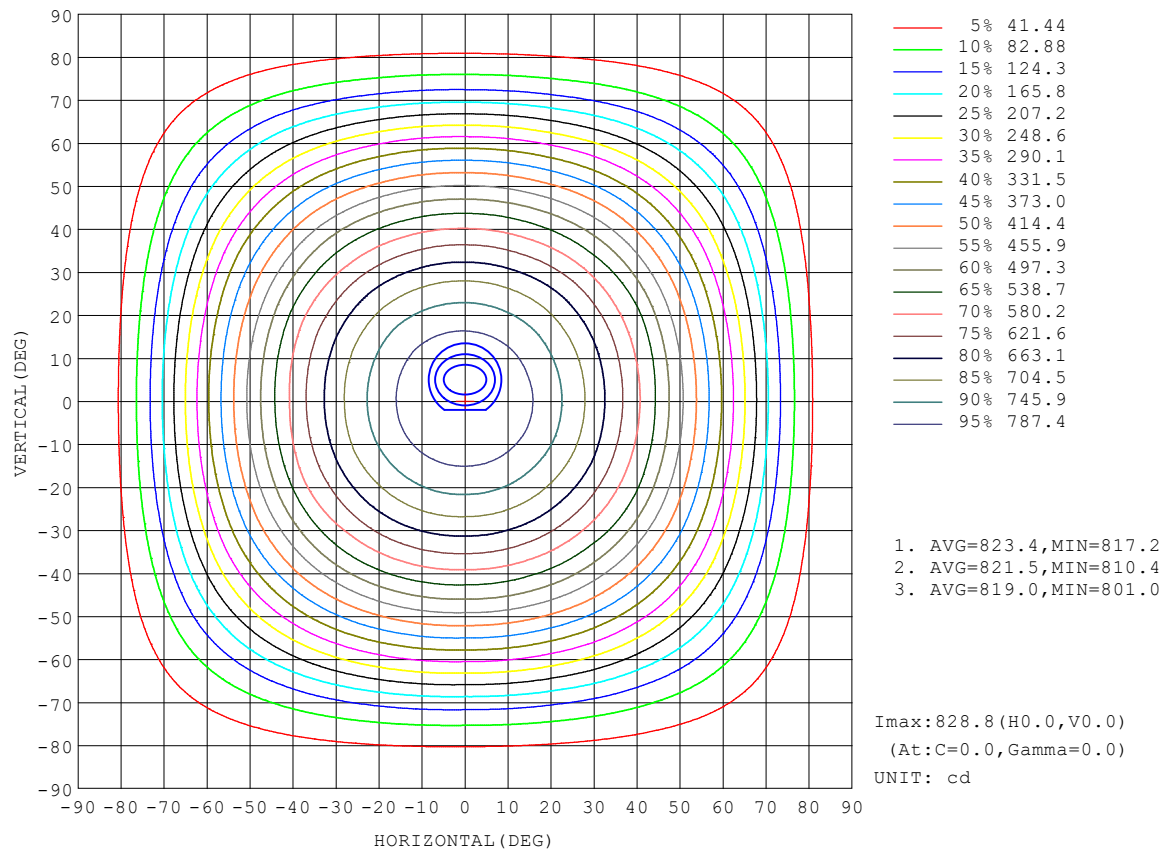
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	59	48	41	59	48	41	57	47	41	35
0.80	70	58	51	69	58	51	67	57	51	44
1.00	78	68	61	77	67	60	75	68	60	53
1.25	85	75	69	84	75	68	81	73	67	60
1.50	90	81	74	88	80	74	86	78	73	65
2.00	97	89	83	95	88	82	92	85	80	73
2.50	100	93	88	98	92	87	95	89	85	77
3.00	104	97	92	102	96	91	98	93	89	81
4.00	107	102	98	105	100	96	101	97	94	85
5.00	110	105	101	107	103	100	103	100	97	88
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: 20 January 2023

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 7.995m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:239.9V I:0.1206A P:23.29W PF:0.8053 Lamp Flux:2149.22x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_450mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

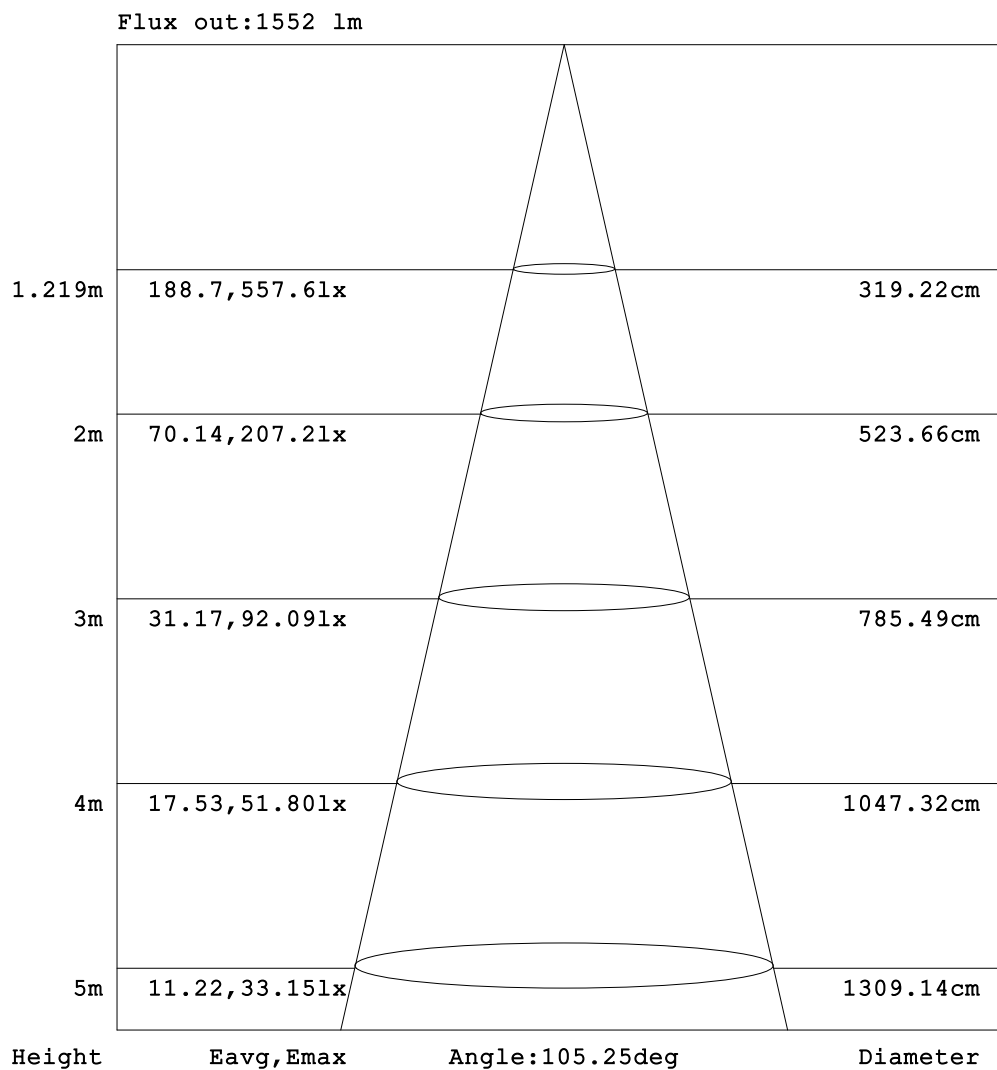


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 January 2023

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.995m [K=1.0000]
Remarks:

AAI Figure

Test:U:239.9V I:0.1206A P:23.29W PF:0.8053 Lamp Flux:2149.22x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_450mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



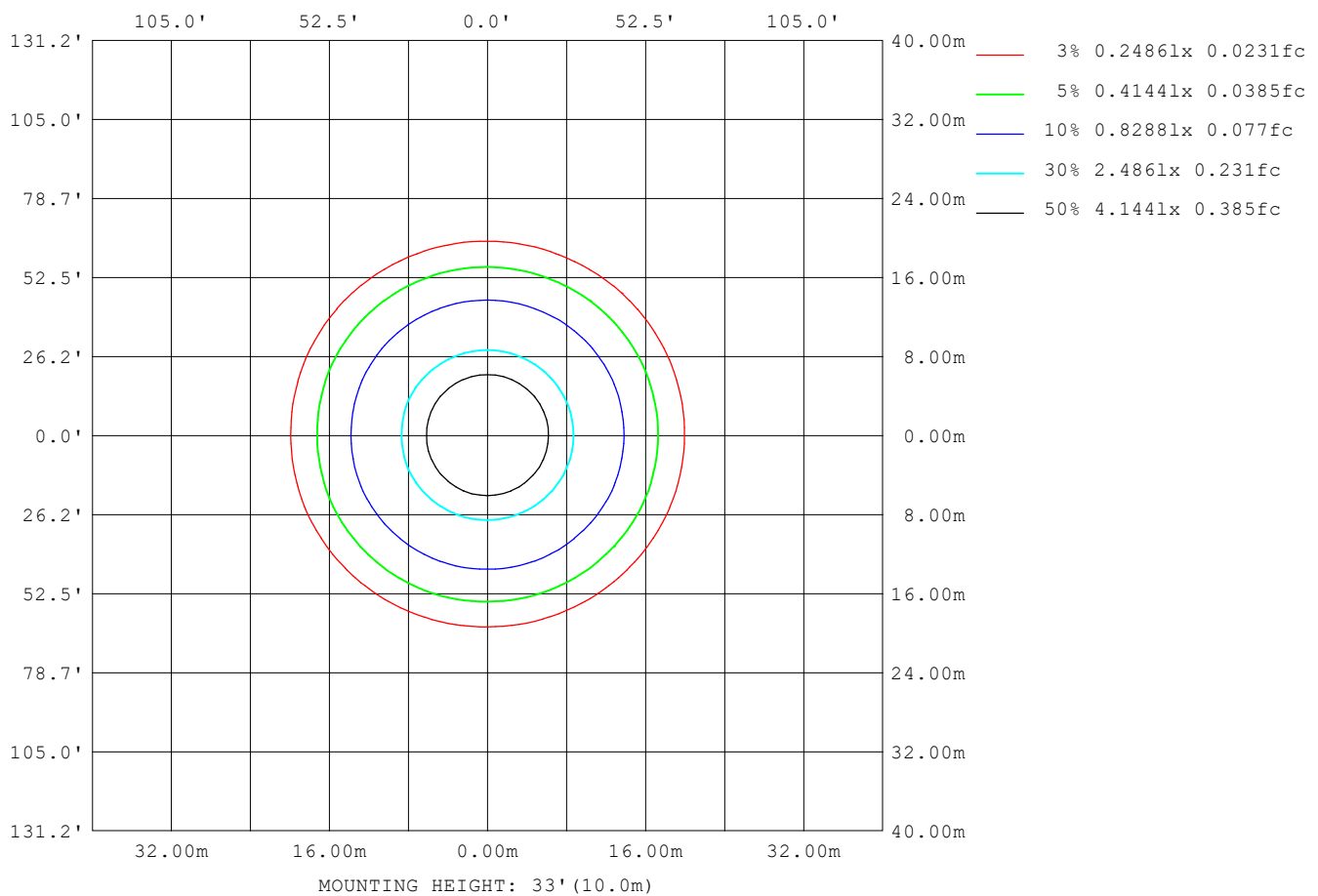
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 January 2023

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.995m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:239.9V I:0.1206A P:23.29W PF:0.8053 Lamp Flux:2149.22x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_450mA_4000K CRI90 TYPE:LED	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:20 January 2023

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.995m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:239.9V I:0.1206A P:23.29W PF:0.8053 Lamp Flux:2149.22x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_450mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

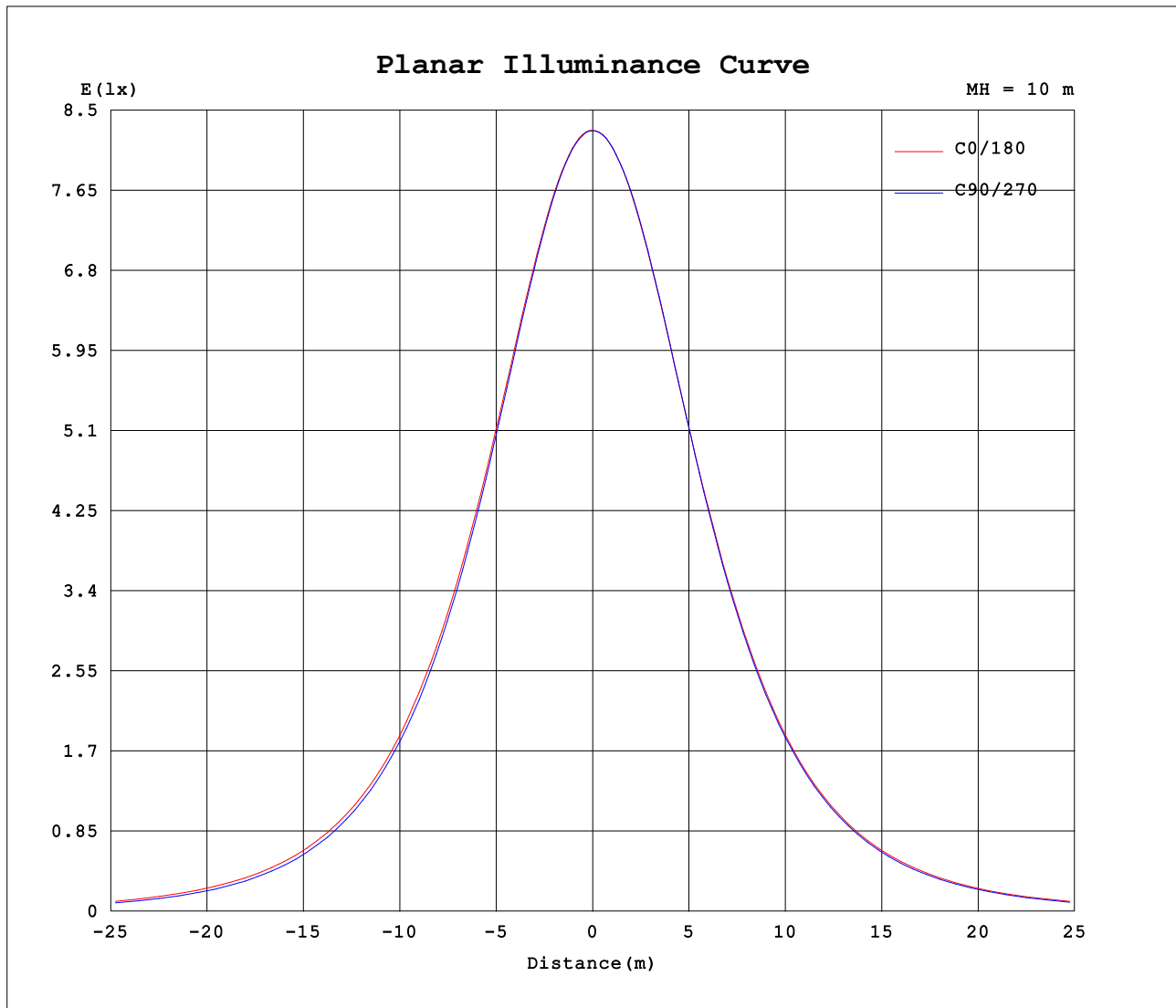
AvgL	cd/m2
L_0~180 (65) av	8822
L_0~180 (75) av	5849
L_0~180 (85) av	2462
L_90~270 (65) av	8053
L_90~270 (75) av	5172
L_90~270 (85) av	2819
L_45 (65) av	8483
L_45 (75) av	5512
L_45 (85) av	2771

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 January 2023

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.995m [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: 20 January 2023

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 7.995m [K=1.0000]
Remarks:

