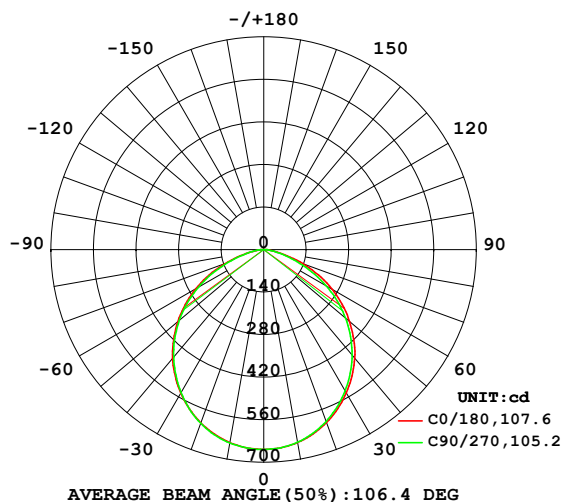


LUMINAIRE PHOTOMETRIC TEST REPORT

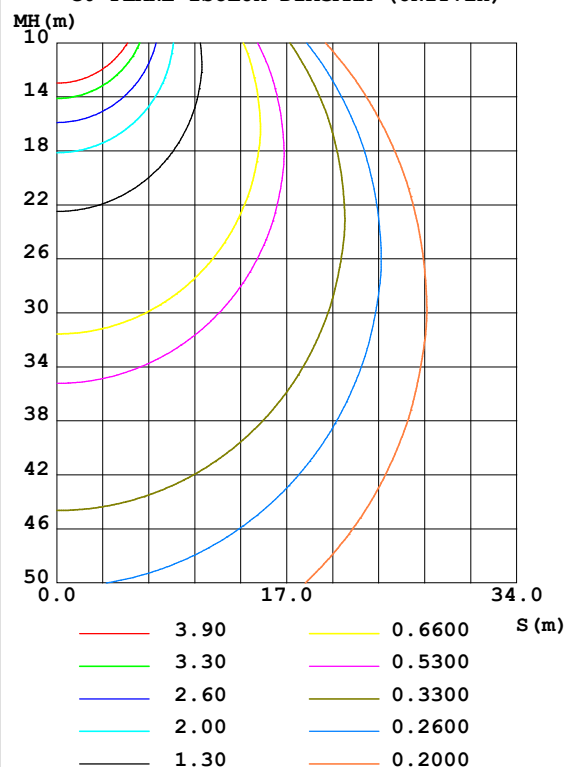
Test:U:239.9V I:0.1050A P:18.46W PF:0.7328 Lamp Flux:1705.64x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_350mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 92.38 lm/W			
MODEL	1300lm 940 HV ADV5	Imax(cd)	657.7	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)	1705.6	η UP,DN(C0-180)	0.0,49.6
NOMINAL FLUX(lm)	1705.64	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	644.4	643.6	643.4	644.7	644.8	646.0	645.9	645.1	0- 10	62.17	62.17	3.65,3.65
20	605.5	602.7	601.6	605.1	606.5	609.9	607.9	607.8	10- 20	177.3	239.4	14,14
30	544.2	539.2	536.4	542.8	545.8	549.3	543.9	546.7	20- 30	266.0	505.4	29.6,29.6
40	466.2	457.7	452.6	461.4	467.4	468.0	461.7	465.2	30- 40	316.0	821.5	48.2,48.2
50	368.9	359.3	352.3	363.4	369.5	371.4	363.1	368.0	40- 50	320.7	1142	67,67
60	259.5	245.6	236.3	249.4	258.4	258.7	248.6	255.2	50- 60	276.6	1419	83.2,83.2
70	137.9	123.5	116.0	126.9	136.6	134.9	125.5	132.0	60- 70	188.1	1607	94.2,94.2
80	38.39	35.20	34.26	36.72	36.94	39.39	37.78	38.07	70- 80	82.68	1690	99.1,99.1
90	0.7137	1.139	1.281	1.049	0.5644	1.365	1.751	1.369	80- 90	16.05	1706	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): 984.42 lm

%lum = 57.7%

%lamp = 57.7%

Conical surface Flux(120deg): 1418.8 lm

%lum = 83.2%

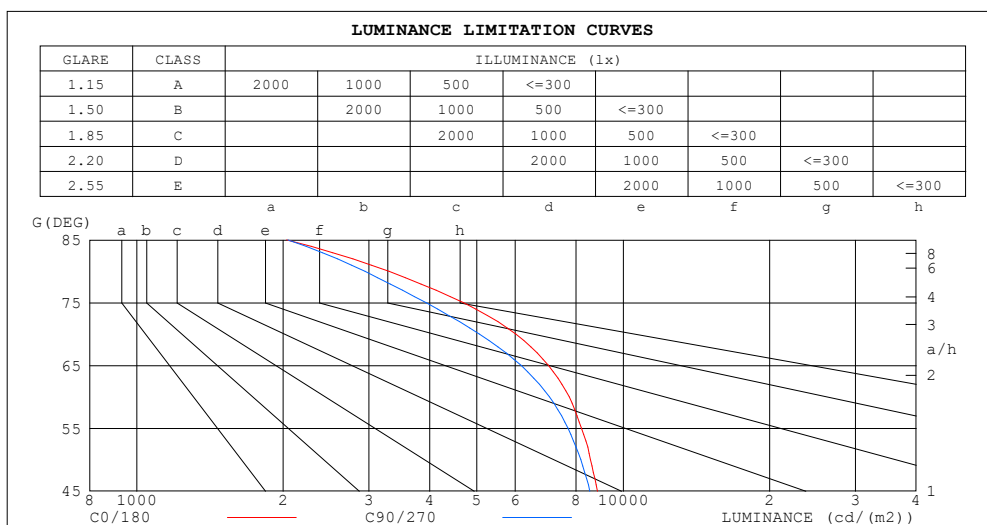
%lamp = 83.2%

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:0.1050A P:18.46W PF:0.7328 Lamp Flux:1705.64x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_350mA_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	2032	2045
80	3299	2945
75	4696	3936
70	6019	5064
65	7023	6170
60	7744	7054
55	8211	7700
50	8566	8181
45	8851	8542

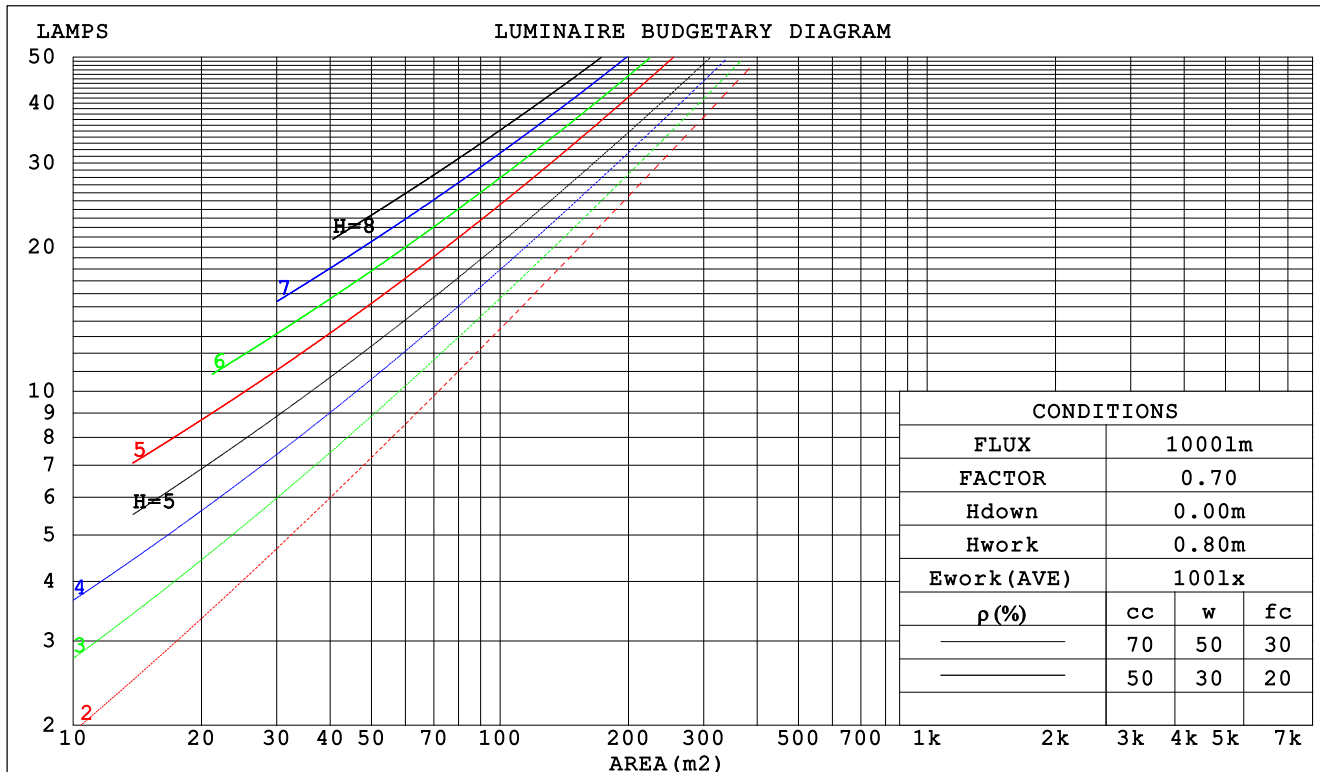
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 January 2023

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:0.1050A P:18.46W PF:0.7328 Lamp Flux:1705.64x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_350mA_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	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	1.05	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	.45	.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:0.1050A P:18.46W PF:0.7328 Lamp Flux:1705.64x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_350mA_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	.235	.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:0.1050A P:18.46W PF:0.7328 Lamp Flux:1705.64x1 lm										
NAME: HIP IP67_1186_NA_WHT_OV_HE_350mA_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	20.2	21.6	20.4	21.8	22.0	19.8	21.3	20.0	21.5	21.7
3H	21.3	22.7	21.6	22.9	23.1	20.8	22.1	21.1	22.4	22.6
4H	21.6	22.9	21.9	23.2	23.4	21.0	22.3	21.3	22.6	22.8
6H	21.8	23.0	22.1	23.3	23.5	21.2	22.4	21.5	22.6	22.9
8H	21.8	23.0	22.1	23.2	23.5	21.2	22.3	21.5	22.6	22.9
12H	21.8	22.9	22.1	23.2	23.5	21.2	22.3	21.5	22.6	22.9
4H 2H	20.6	21.9	20.9	22.1	22.4	20.3	21.6	20.6	21.8	22.1
3H	21.9	23.0	22.2	23.3	23.6	21.4	22.5	21.8	22.8	23.1
4H	22.3	23.3	22.7	23.6	24.0	21.8	22.8	22.1	23.1	23.4
6H	22.5	23.4	22.9	23.8	24.1	22.0	22.9	22.4	23.2	23.6
8H	22.6	23.4	23.0	23.8	24.1	22.0	22.8	22.4	23.2	23.6
12H	22.6	23.3	23.0	23.7	24.1	22.0	22.8	22.4	23.2	23.6
8H 4H	22.4	23.2	22.8	23.6	24.0	21.9	22.7	22.3	23.1	23.5
6H	22.7	23.4	23.1	23.8	24.2	22.2	22.8	22.6	23.3	23.7
8H	22.8	23.4	23.2	23.8	24.2	22.2	22.8	22.7	23.3	23.7
12H	22.8	23.3	23.3	23.8	24.2	22.3	22.8	22.8	23.3	23.7
12H 4H	22.4	23.1	22.8	23.5	23.9	21.9	22.6	22.3	23.0	23.4
6H	22.7	23.3	23.1	23.7	24.2	22.2	22.8	22.6	23.2	23.6
8H	22.8	23.3	23.2	23.7	24.2	22.3	22.8	22.7	23.2	23.7
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 1706 lm Total Lamp Luminous Flux. (8log(F/F0) = 1.9)

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:0.1050A P:18.46W PF:0.7328 Lamp Flux:1705.64x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_350mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

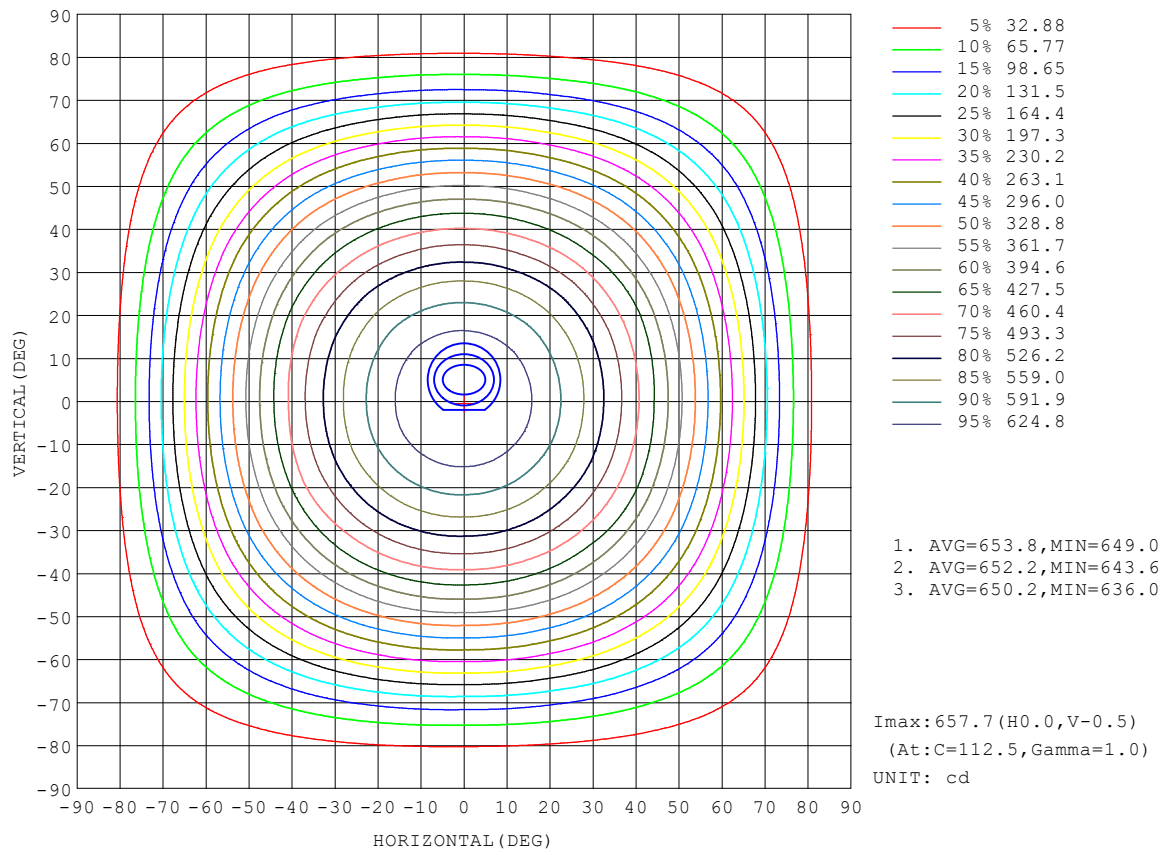
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	59	48	41	59	48	41	57	47	41	35
0.80	70	58	51	69	58	51	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:0.1050A P:18.46W PF:0.7328 Lamp Flux:1705.64x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_350mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

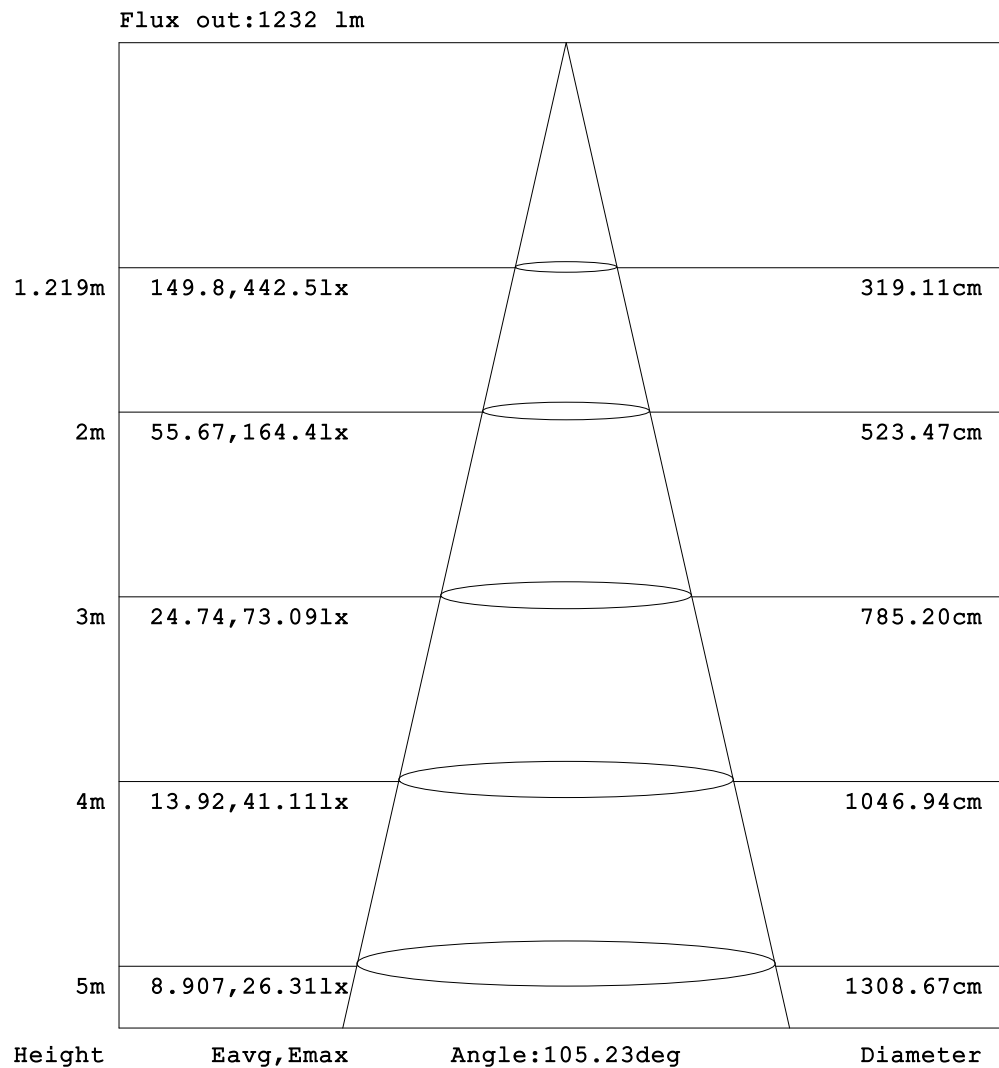


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: JEFF
Test Date: 20 January 2023

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:0.1050A P:18.46W PF:0.7328 Lamp Flux:1705.64x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_350mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



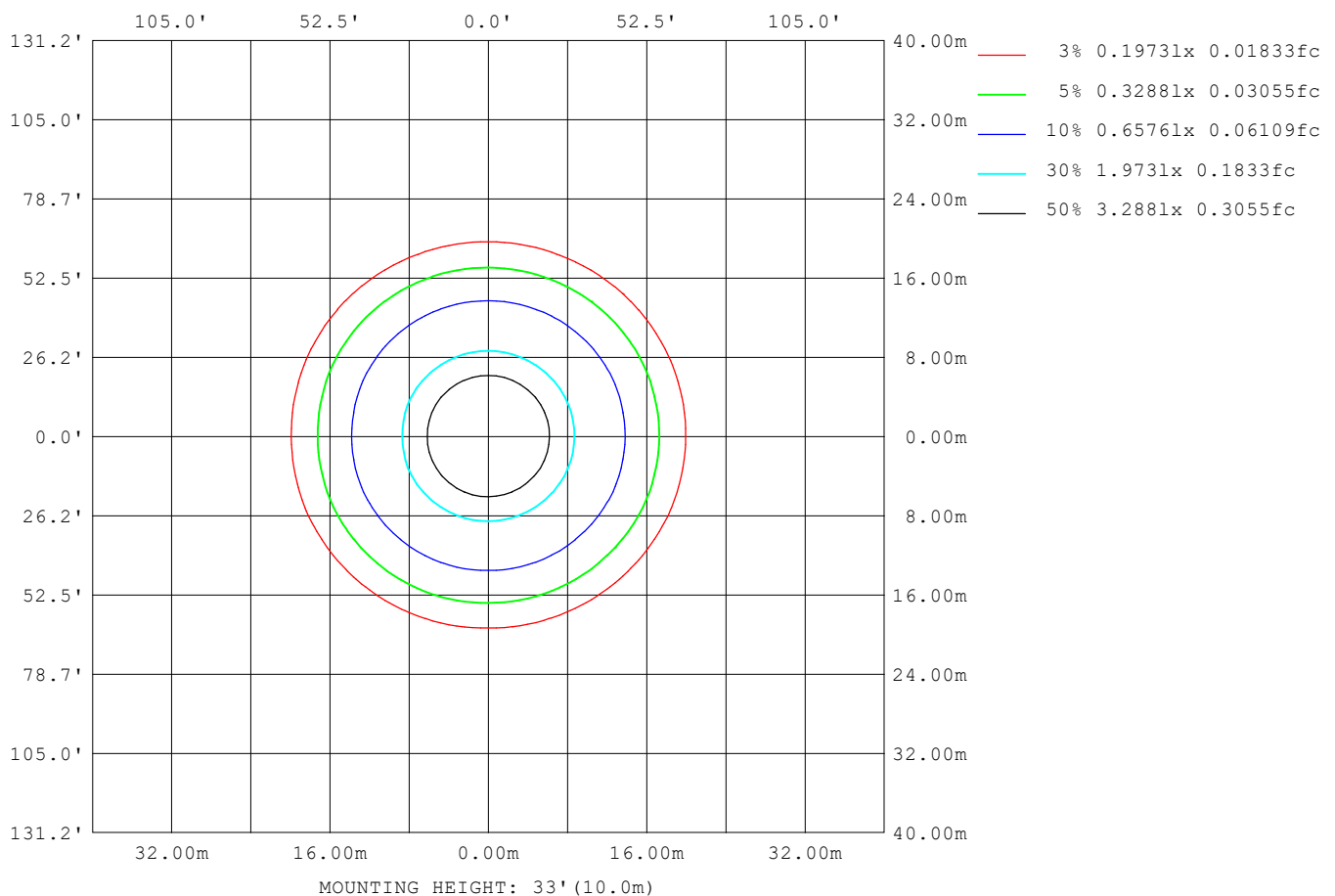
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.1050A P:18.46W PF:0.7328 Lamp Flux:1705.64x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_350mA_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:0.1050A P:18.46W PF:0.7328 Lamp Flux:1705.64x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_350mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

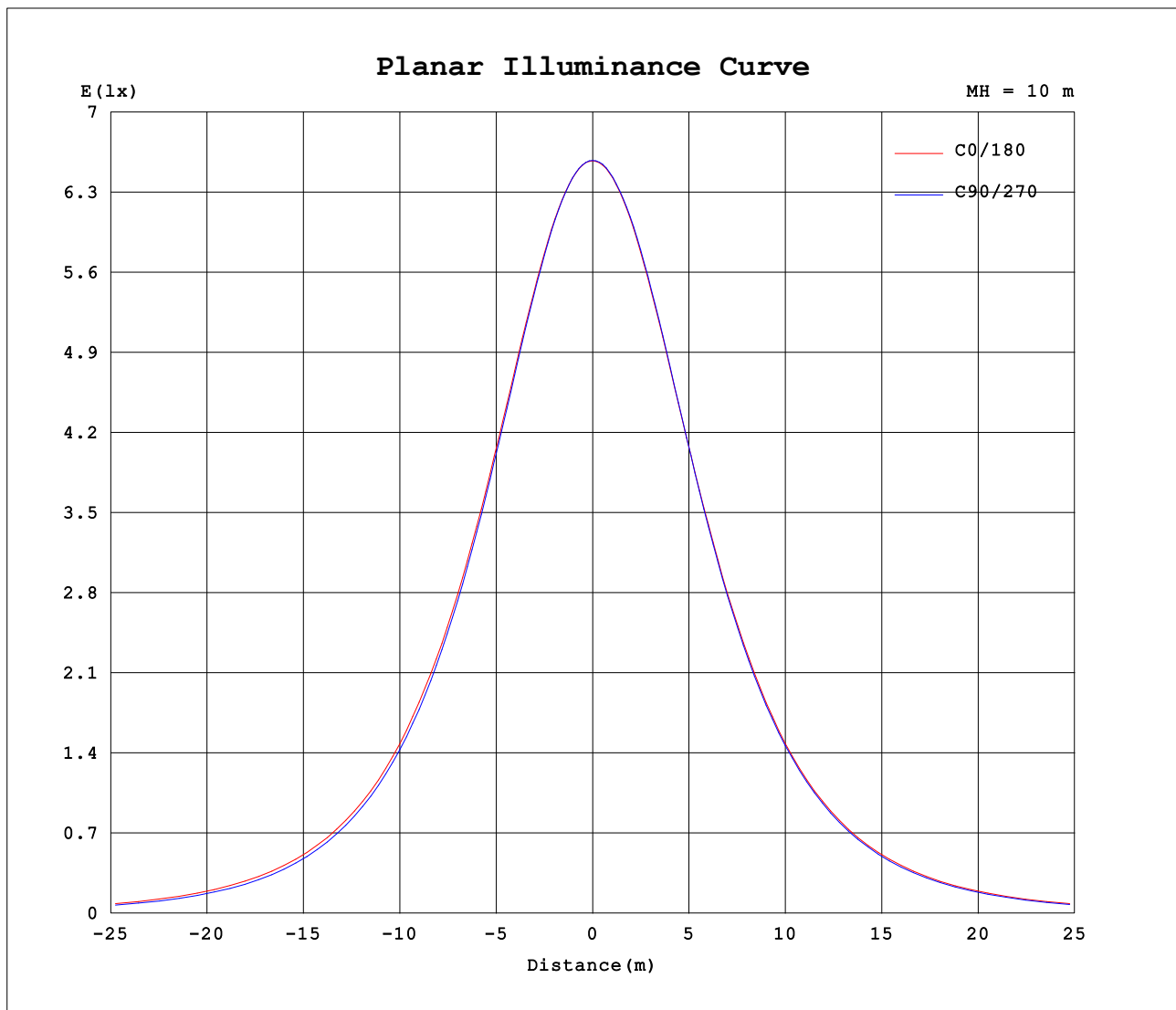
AvgL	cd/m2
L_0~180 (65) av	7002
L_0~180 (75) av	4644
L_0~180 (85) av	1953
L_90~270 (65) av	6380
L_90~270 (75) av	4098
L_90~270 (85) av	2234
L_45 (65) av	6729
L_45 (75) av	4372
L_45 (85) av	2198

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:

