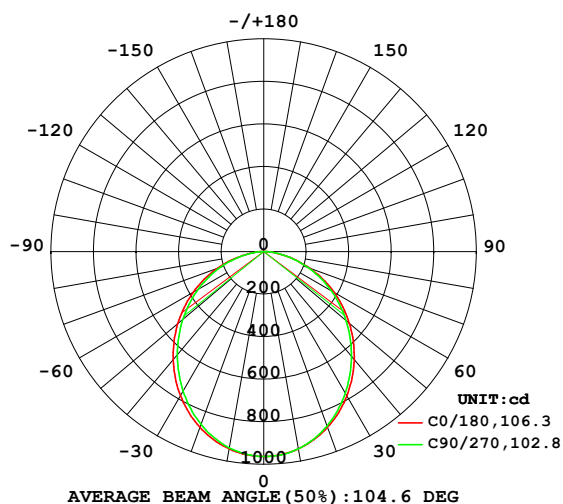


LUMINAIRE PHOTOMETRIC TEST REPORT

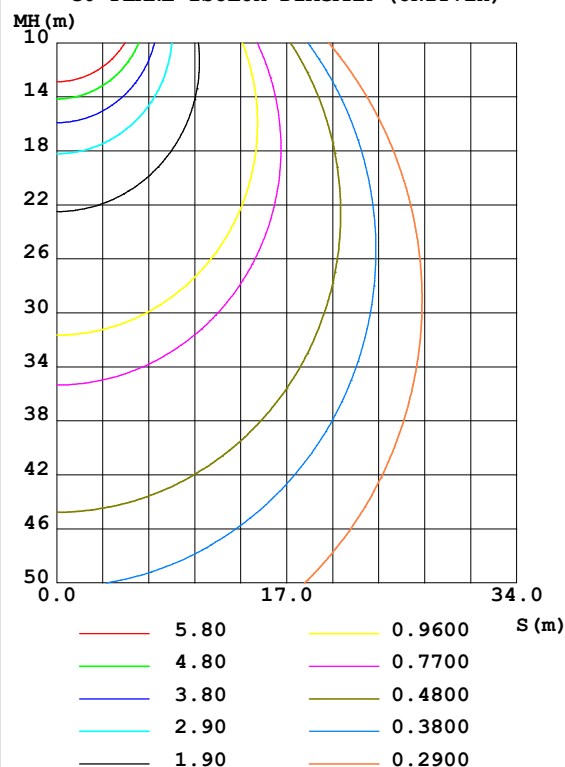
Test:U:240.0V I:0.1129A P:25.42W PF:0.9381 Lamp Flux:2517.51x1 lm		
NAME: HIP_1160_NA_WHT_OPAL_HE_500mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 99.04 lm/W			
LED 20000mm	1300lm 940 HV ADV6	Imax(cd)	963.9	S/MH(C0/180)	1.22
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.18
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	2517.5	η UP,DN(C0-180)	0.0,50.3
NOMINAL FLUX(lm)	2517.51	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.7
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:22 January 2024

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.890m [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	941.7	941.6	941.4	940.9	941.7	938.6	936.7	938.4	0- 10	90.84	90.84	3.61,3.61
20	878.5	875.8	872.2	875.6	878.9	870.4	863.8	870.9	10- 20	256.9	347.8	13.8,13.8
30	782.9	775.9	767.8	775.9	782.8	769.5	758.5	769.1	20- 30	380.6	728.4	28.9,28.9
40	662.2	652.1	641.8	652.5	662.9	646.3	632.3	645.4	30- 40	446.0	1174	46.6,46.6
50	525.9	516.1	506.1	517.0	528.1	511.4	496.9	509.8	40- 50	449.6	1624	64.5,64.5
60	381.3	372.9	365.2	375.1	383.3	369.9	357.3	367.2	50- 60	396.3	2020	80.2,80.2
70	231.0	226.3	223.4	230.0	233.9	225.3	216.6	221.6	60- 70	295.7	2316	92,92
80	85.41	86.40	88.16	90.77	88.50	86.86	83.32	82.58	70- 80	163.1	2479	98.5,98.5
90	0.6795	1.953	3.244	2.676	0.8007	3.356	4.566	2.815	80- 90	38.41	2518	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): 1402.5 lm

%lum = 55.7%

%lamp = 55.7%

Conical surface Flux(120deg): 2020.3 lm

%lum = 80.2%

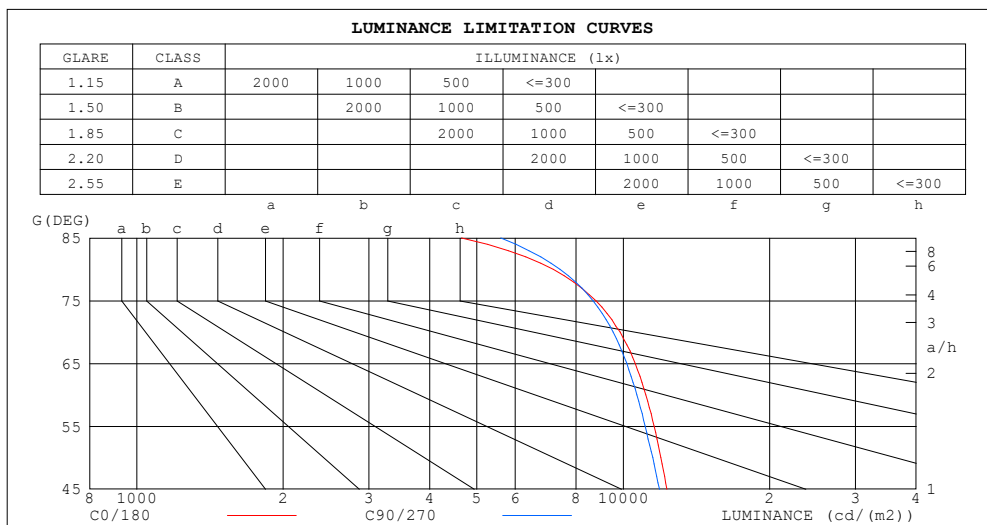
%lamp = 80.2%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:JEFF
 Test Date:22 January 2024

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:7.890m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:240.0V I:0.1129A P:25.42W PF:0.9381 Lamp Flux:2517.51x1 lm		
NAME: HIP_1160_NA_WHT_OPAL_HE_500mA_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	4646	5598
80	7177	7414
75	8791	8666
70	9854	9538
65	10584	10168
60	11128	10665
55	11574	11095
50	11940	11497
45	12295	11872

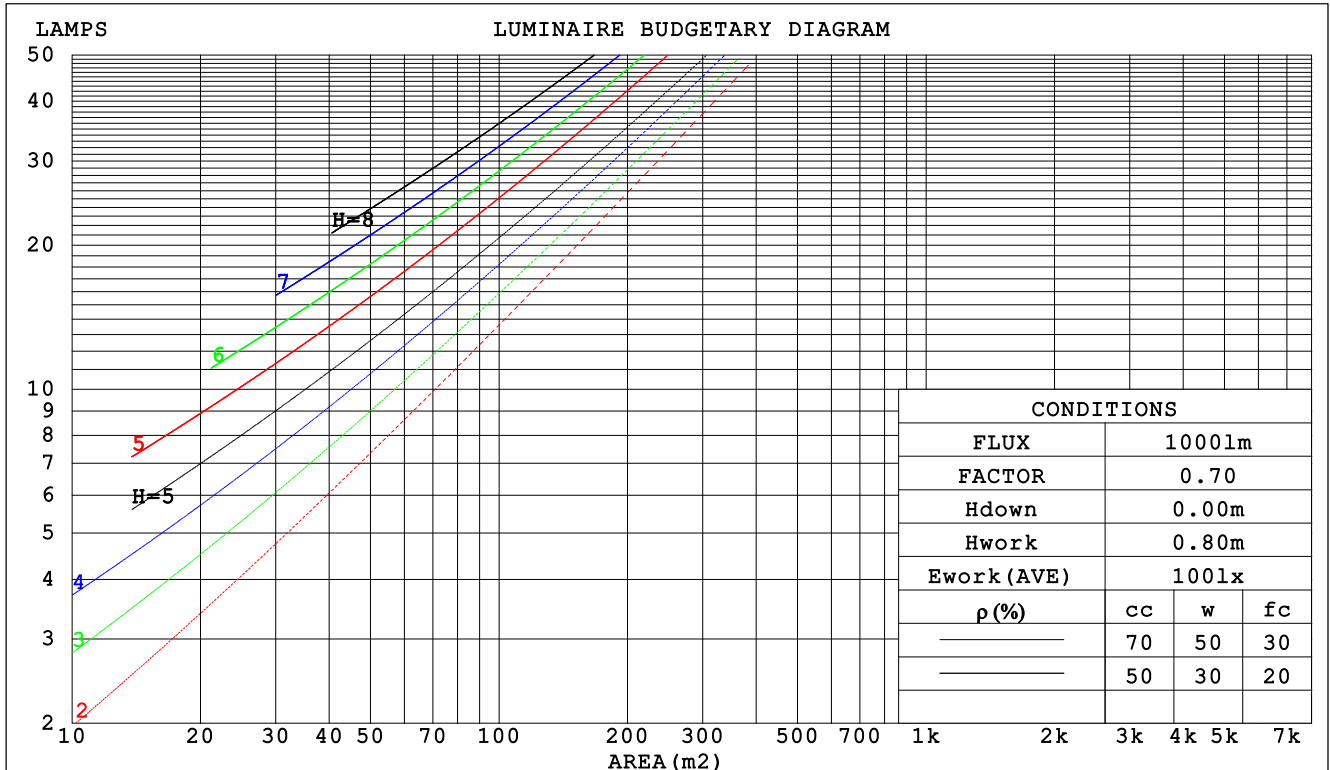
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:22 January 2024

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.890m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.0V I:0.1129A P:25.42W PF:0.9381 Lamp Flux:2517.51x1 lm		
NAME: HIP_1160_NA_WHT_OPAL_HE_500mA_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	1.04	1.00	.96	1.02	.98	.95	.98	.95	.92	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.84	.79	.89	.83	.78	.86	.81	.76	.83	.78	.74	.79	.76	.73	.71
3.0	.80	.72	.66	.79	.71	.65	.76	.69	.64	.73	.68	.63	.70	.66	.62	.60
4.0	.71	.63	.56	.70	.62	.56	.67	.60	.55	.65	.59	.54	.63	.58	.53	.51
5.0	.64	.55	.48	.63	.54	.48	.61	.53	.48	.59	.52	.47	.57	.51	.46	.44
6.0	.57	.49	.42	.57	.48	.42	.55	.47	.42	.53	.46	.41	.51	.46	.41	.39
7.0	.52	.44	.37	.51	.43	.37	.50	.42	.37	.48	.42	.37	.47	.41	.36	.34
8.0	.48	.39	.33	.47	.39	.33	.46	.38	.33	.44	.38	.33	.43	.37	.33	.31
9.0	.44	.36	.30	.43	.35	.30	.42	.35	.30	.41	.34	.30	.40	.34	.30	.28
10.0	.40	.33	.27	.40	.32	.27	.39	.32	.27	.38	.32	.27	.37	.31	.27	.25



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:22 January 2024

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.890m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:240.0V I:0.1129A P:25.42W PF:0.9381 Lamp Flux:2517.51x1 lm		
NAME: HIP_1160_NA_WHT_OPAL_HE_500mA_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	.300 .171 .054	.293 .167 .053	.280 .161 .051	.268 .155 .050	.257 .149 .048	
2.0	.284 .156 .048	.278 .153 .047	.267 .148 .046	.256 .144 .045	.246 .139 .044	
3.0	.264 .141 .042	.259 .139 .042	.248 .135 .041	.239 .131 .040	.230 .127 .039	
4.0	.244 .127 .037	.240 .125 .037	.231 .122 .037	.222 .119 .036	.214 .116 .035	
5.0	.226 .115 .033	.222 .114 .033	.214 .111 .033	.207 .109 .032	.200 .107 .032	
6.0	.210 .105 .030	.207 .104 .030	.199 .102 .030	.193 .100 .029	.186 .098 .029	
7.0	.196 .097 .027	.193 .096 .027	.186 .094 .027	.180 .092 .027	.175 .091 .027	
8.0	.183 .090 .025	.180 .089 .025	.174 .087 .025	.169 .086 .025	.164 .084 .025	
9.0	.172 .083 .023	.169 .082 .023	.164 .081 .023	.159 .080 .023	.155 .079 .023	
10.0	.162 .078 .022	.159 .077 .021	.155 .076 .021	.150 .075 .021	.146 .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	.171 .132 .099	.147 .114 .085	.101 .079 .060	.058 .046 .035	.019 .015 .011	
3.0	.163 .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	.148 .090 .048	.127 .078 .042	.088 .055 .029	.051 .032 .017	.016 .010 .006	
6.0	.141 .082 .040	.121 .071 .034	.084 .050 .024	.049 .029 .015	.016 .010 .005	
7.0	.134 .075 .034	.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	.116 .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:22 January 2024

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.890m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:240.0V I:0.1129A P:25.42W PF:0.9381 Lamp Flux:2517.51x1 lm										
NAME: HIP_1160_NA_WHT_OPAL_HE_500mA_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	21.3	22.8	21.6	23.0	23.2	21.1	22.6	21.4	22.8	23.0
3H	22.8	24.2	23.1	24.4	24.6	22.6	24.0	22.9	24.2	24.4
4H	23.3	24.6	23.6	24.9	25.1	23.1	24.4	23.4	24.7	25.0
6H	23.7	24.9	24.0	25.2	25.4	23.5	24.7	23.8	25.0	25.3
8H	23.7	24.9	24.1	25.2	25.5	23.6	24.8	23.9	25.1	25.4
12H	23.8	24.9	24.1	25.2	25.5	23.6	24.8	24.0	25.1	25.4
4H 2H	21.9	23.2	22.2	23.5	23.7	21.8	23.1	22.1	23.3	23.6
3H	23.5	24.7	23.9	25.0	25.3	23.4	24.5	23.7	24.8	25.1
4H	24.2	25.2	24.6	25.6	25.9	24.0	25.1	24.4	25.4	25.7
6H	24.6	25.6	25.0	25.9	26.3	24.5	25.4	24.9	25.8	26.2
8H	24.8	25.6	25.2	26.0	26.4	24.7	25.5	25.1	25.9	26.3
12H	24.8	25.6	25.2	26.0	26.4	24.7	25.5	25.2	25.9	26.3
8H 4H	24.4	25.3	24.8	25.6	26.0	24.3	25.1	24.7	25.5	25.9
6H	25.0	25.7	25.4	26.1	26.5	24.9	25.6	25.3	26.0	26.4
8H	25.2	25.8	25.6	26.2	26.7	25.1	25.7	25.6	26.2	26.6
12H	25.3	25.8	25.7	26.3	26.7	25.2	25.8	25.7	26.2	26.7
12H 4H	24.4	25.2	24.8	25.6	26.0	24.3	25.1	24.7	25.5	25.9
6H	25.0	25.7	25.5	26.1	26.5	24.9	25.6	25.4	26.0	26.4
8H	25.2	25.8	25.7	26.2	26.7	25.2	25.7	25.6	26.2	26.6
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 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 2518 lm Total Lamp Luminous Flux. (8log(F/F0) = 3.2)

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:22 January 2024

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.890m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.0V I:0.1129A P:25.42W PF:0.9381 Lamp Flux:2517.51x1 lm		
NAME: HIP_1160_NA_WHT_OPAL_HE_500mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

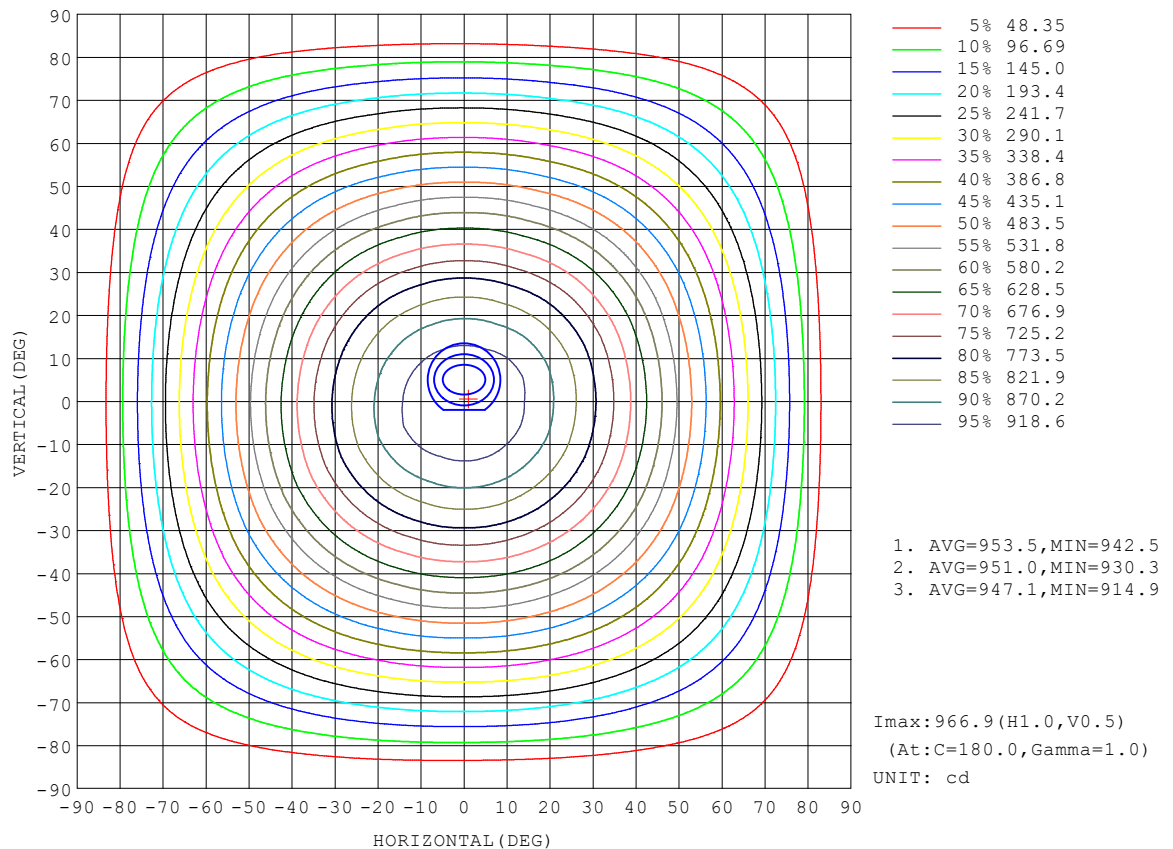
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	59	47	40	58	47	40	57	47	40	34
0.80	69	57	50	68	57	50	66	56	50	43
1.00	77	66	59	76	66	59	74	67	58	51
1.25	84	74	67	83	73	66	80	72	66	58
1.50	89	79	73	87	78	72	84	77	71	64
2.00	96	87	81	94	86	80	90	84	79	71
2.50	100	92	86	97	91	85	94	88	83	75
3.00	103	96	91	101	95	90	97	92	88	79
4.00	107	101	97	104	99	95	100	96	93	84
5.00	109	104	100	107	102	99	102	99	96	87
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:22 January 2024

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.890m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:240.0V I:0.1129A P:25.42W PF:0.9381 Lamp Flux:2517.51x1 lm		
NAME: HIP_1160_NA_WHT_OPAL_HE_500mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

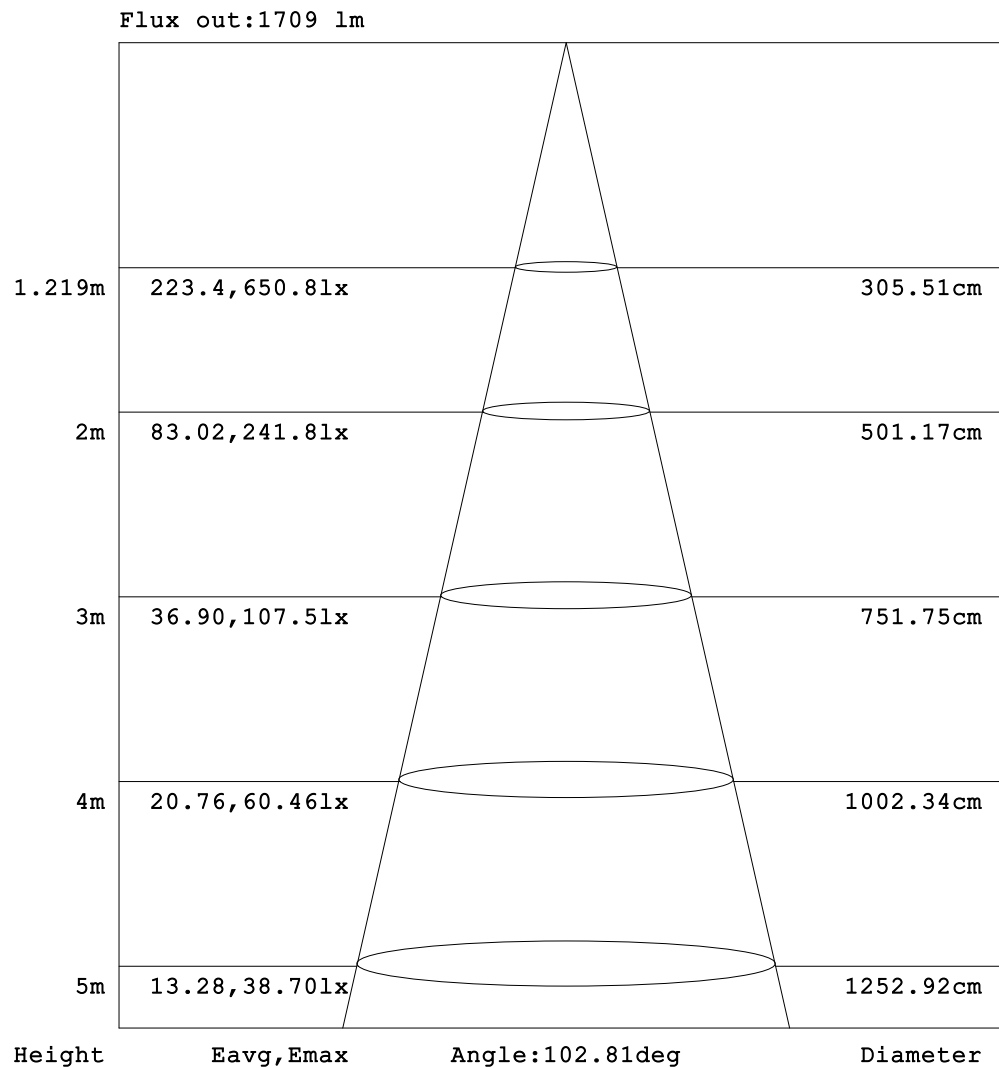


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:22 January 2024

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.890m [K=1.0000]
Remarks:

AAI Figure

Test:U:240.0V I:0.1129A P:25.42W PF:0.9381 Lamp Flux:2517.51x1 lm		
NAME: HIP_1160_NA_WHT_OPAL_HE_500mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



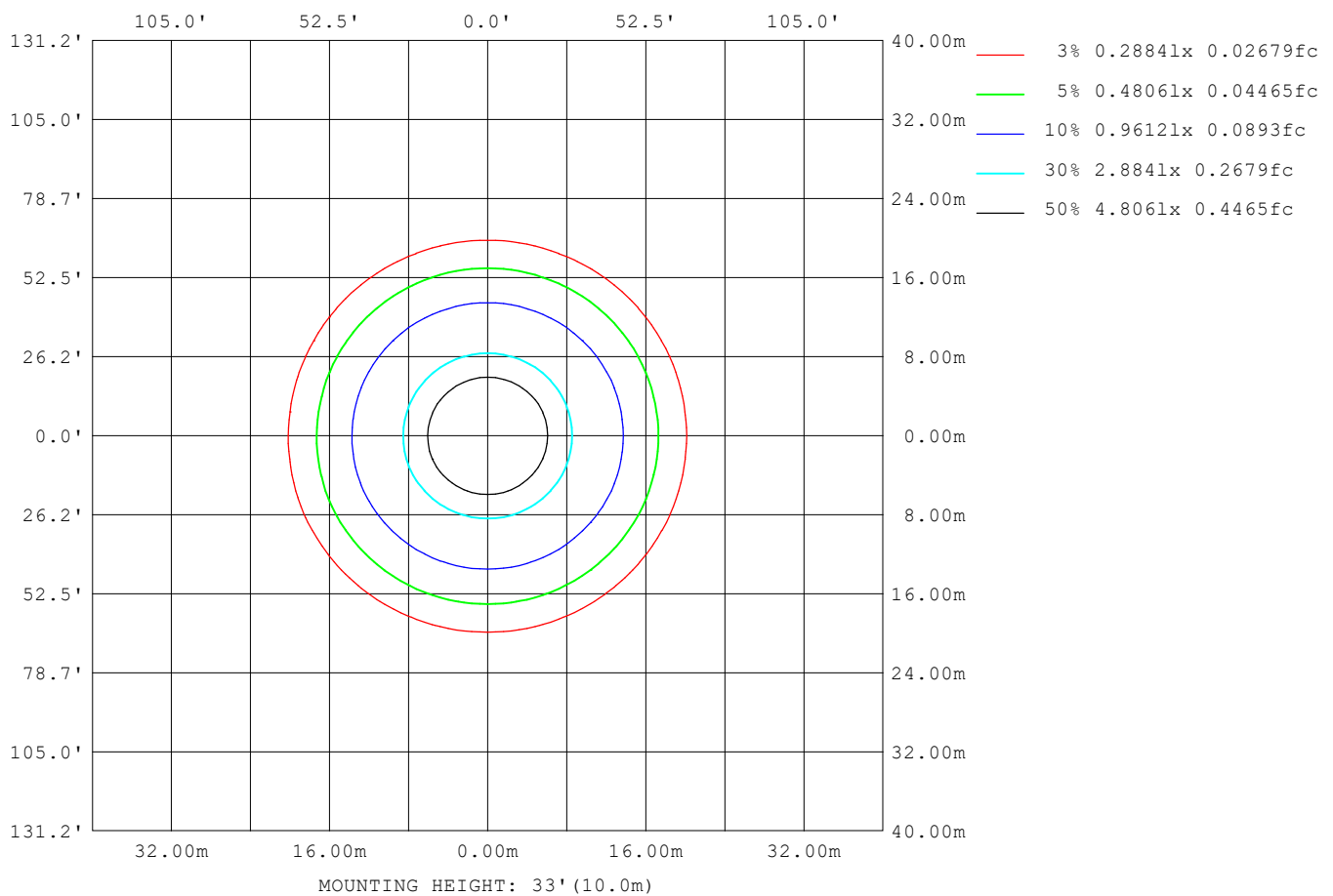
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:22 January 2024

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.890m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:240.0V I:0.1129A P:25.42W PF:0.9381 Lamp Flux:2517.51x1 lm		
NAME: HIP_1160_NA_WHT_OPAL_HE_500mA_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:22 January 2024

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.890m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:240.0V I:0.1129A P:25.42W PF:0.9381 Lamp Flux:2517.51x1 lm		
NAME: HIP_1160_NA_WHT_OPAL_HE_500mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

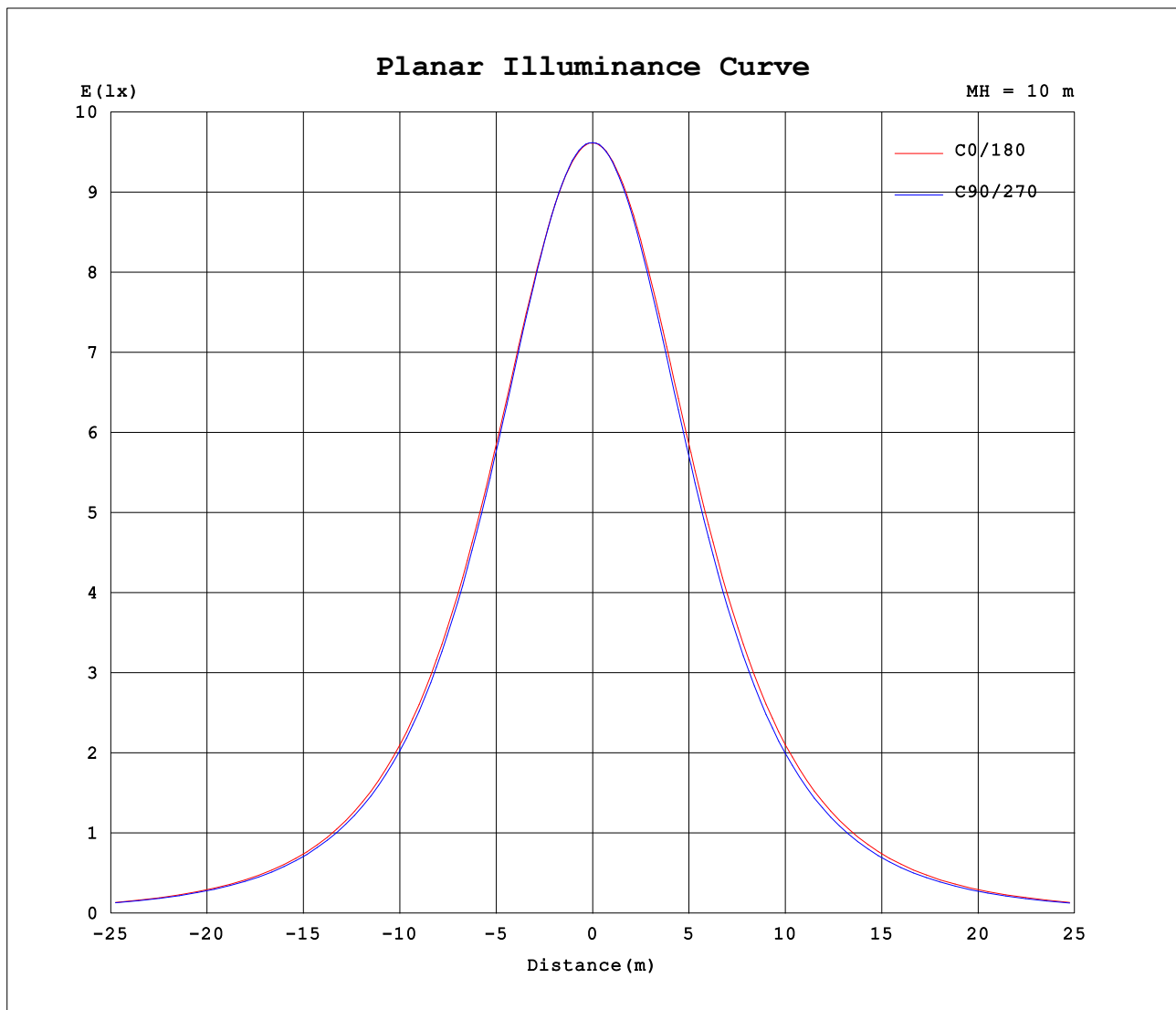
AvgL	cd/m2
L_0~180 (65) av	10649
L_0~180 (75) av	8893
L_0~180 (85) av	4843
L_90~270 (65) av	10051
L_90~270 (75) av	8502
L_90~270 (85) av	5365
L_45 (65) av	10333
L_45 (75) av	8691
L_45 (85) av	5178

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:22 January 2024

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.890m [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: 22 January 2024

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 7.890m [K=1.0000]
Remarks:

