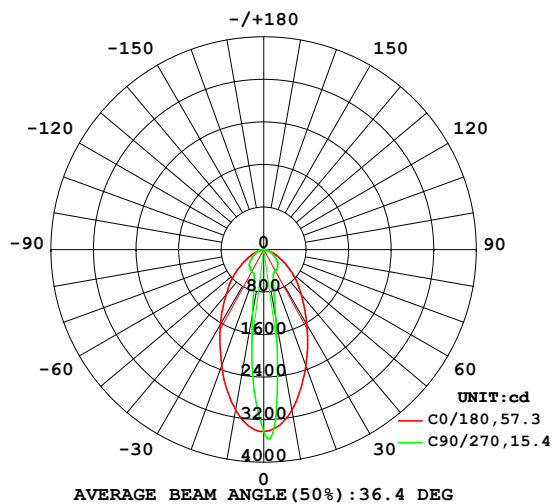


LUMINAIRE PHOTOMETRIC TEST REPORT

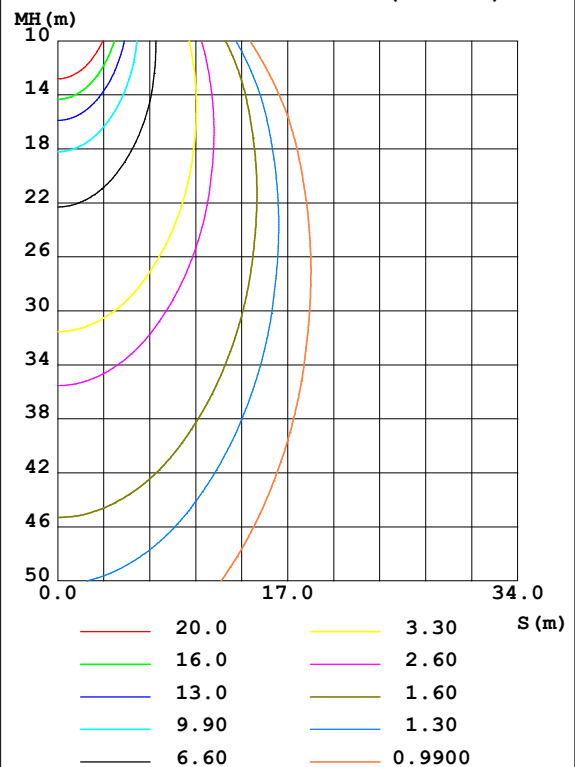
Test:U:239.9V I:0.1127A P:25.36W PF:0.9380 Lamp Flux:2585.87x1 lm		
NAME: HIP H LP DIRECT_1160_NA_WHT_NARROW_HE_500mA_4000K_CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 101.96 lm/W			
LLE 2000A	1300lm 940 HV ADV6	Imax(cd)	3781	S/MH(C0/180)	0.82
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	0.26
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	2585.9	η UP,DN(C0-180)	0.0,51.8
NOMINAL FLUX(lm)	2585.87	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,48.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.00

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:29 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	3063	2643	1340	1932	3060	1640	1218	1805	0- 10	257.0	257.0	9.94,9.94
20	2323	1081	531.6	818.4	2314	789.9	529.8	812.4	10- 20	421.5	678.5	26.2,26.2
30	1621	632.2	457.3	521.9	1634	552.0	467.6	535.1	20- 30	429.0	1108	42.8,42.8
40	1100	500.3	409.8	438.2	1098	484.8	413.5	450.0	30- 40	426.1	1534	59.3,59.3
50	715.1	408.6	334.5	363.1	715.5	399.8	324.2	368.0	40- 50	395.0	1929	74.6,74.6
60	389.4	315.6	221.9	275.6	386.2	297.7	221.3	278.2	50- 60	320.1	2249	87,87
70	171.6	177.5	124.3	157.0	168.9	163.8	118.8	148.0	60- 70	220.0	2469	95.5,95.5
80	43.03	52.10	40.19	48.08	43.54	48.53	37.96	42.37	70- 80	99.08	2568	99.3,99.3
90	0.5615	0.7815	0.5994	0.6984	0.6569	0.7241	0.5348	0.6115	80- 90	17.97	2586	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): 1737.2 lm

%lum = 67.2%

%lamp = 67.2%

Conical surface Flux(120deg): 2248.8 lm

%lum = 87.0%

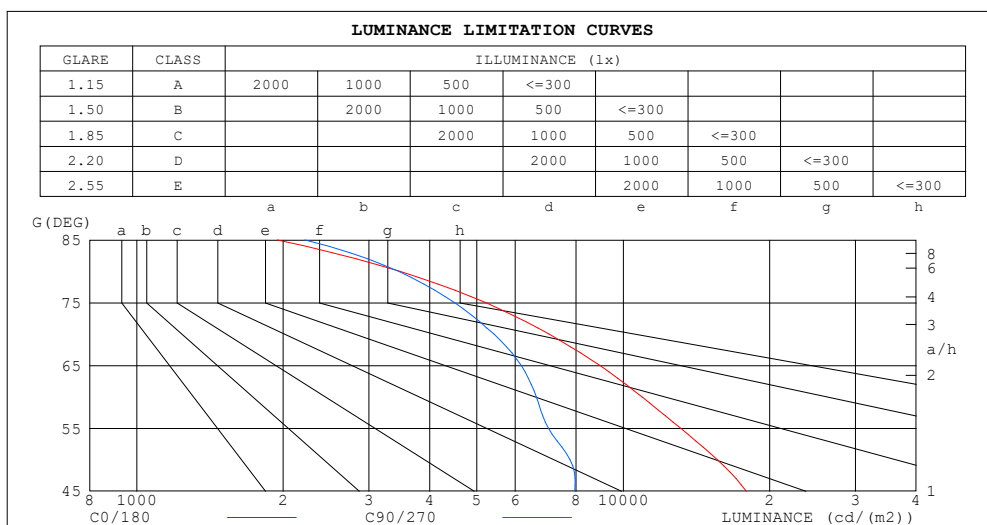
%lamp = 87.0%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:JEFF
 Test Date:29 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:239.9V I:0.1127A P:25.36W PF:0.9380 Lamp Flux:2585.87x1 lm		
NAME: HIP H LP DIRECT_1160_NA_WHT_NARROW_HE_500mA_4000K_CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



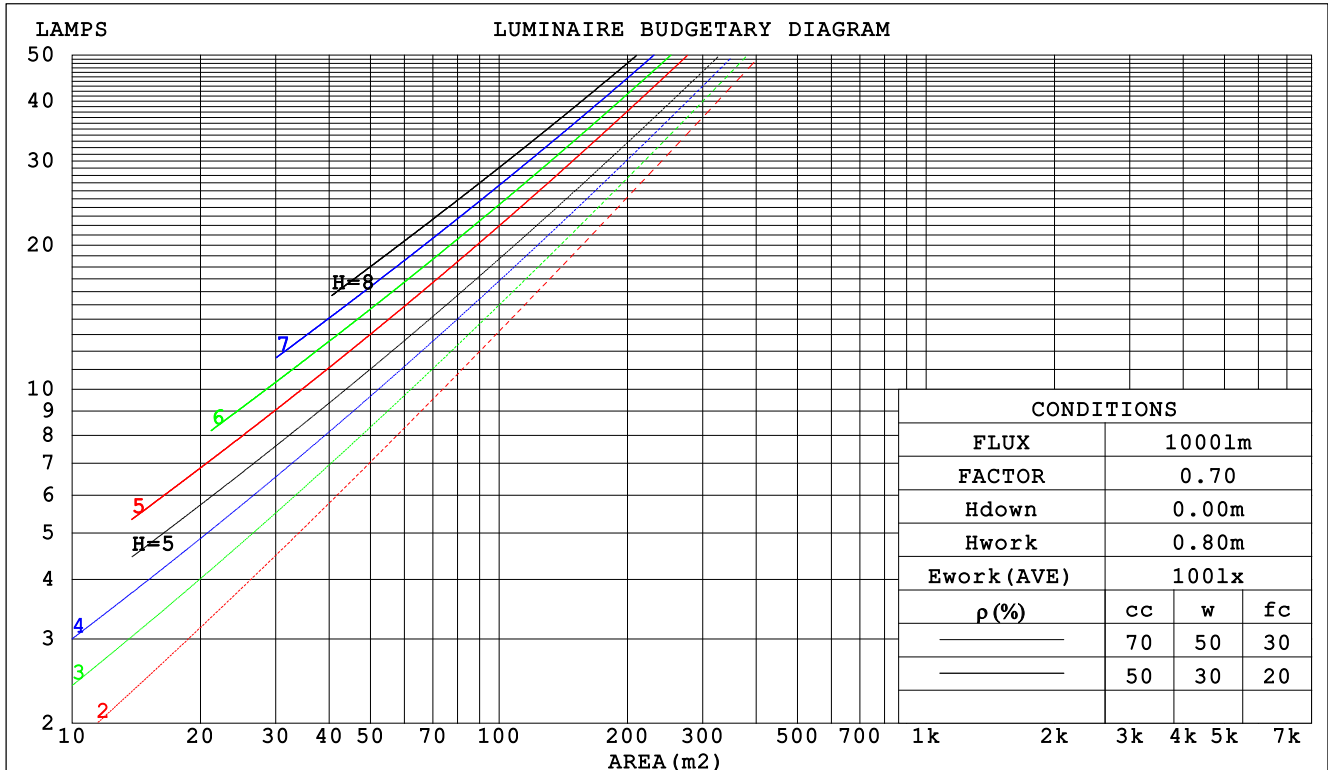
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:29 January 2024

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:239.9V I:0.1127A P:25.36W PF:0.9380 Lamp Flux:2585.87x1 lm		
NAME: HIP H LP DIRECT_1160_NA_WHT_NARROW_HE_500mA_4000K_CRI90		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	1.07	1.03	1.00	1.05	1.01	.99	1.00	.98	.95	.97	.94	.93	.93	.91	.90	.88
2.0	.96	.90	.85	.94	.89	.84	.90	.86	.82	.87	.84	.80	.84	.81	.79	.77
3.0	.86	.79	.74	.84	.78	.73	.82	.76	.72	.79	.74	.70	.77	.73	.69	.67
4.0	.78	.70	.65	.77	.70	.64	.74	.68	.63	.72	.67	.63	.70	.66	.62	.60
5.0	.71	.63	.58	.70	.63	.57	.68	.62	.57	.66	.61	.56	.65	.60	.56	.54
6.0	.65	.58	.52	.65	.57	.52	.63	.56	.51	.61	.55	.51	.60	.55	.51	.49
7.0	.60	.53	.47	.60	.52	.47	.58	.52	.47	.57	.51	.47	.56	.50	.46	.45
8.0	.56	.49	.44	.56	.48	.43	.54	.48	.43	.53	.47	.43	.52	.47	.43	.41
9.0	.53	.45	.40	.52	.45	.40	.51	.45	.40	.50	.44	.40	.49	.44	.40	.38
10.0	.49	.42	.38	.49	.42	.37	.48	.42	.37	.47	.41	.37	.46	.41	.37	.36



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:29 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:239.9V I:0.1127A P:25.36W PF:0.9380 Lamp Flux:2585.87x1 lm		
NAME: HIP H LP DIRECT_1160_NA_WHT_NARROW_HE_500mA_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	.253	.144	.046	.246	.141	.045	.233	.134	.043	.222	.128	.041	.211	.122	.039		
2.0	.243	.133	.041	.237	.130	.040	.225	.125	.039	.215	.121	.038	.205	.116	.037		
3.0	.227	.121	.036	.222	.119	.036	.212	.115	.035	.203	.111	.034	.195	.108	.033		
4.0	.212	.110	.032	.207	.109	.032	.199	.105	.031	.191	.102	.031	.183	.100	.030		
5.0	.198	.101	.029	.194	.099	.029	.186	.097	.029	.179	.094	.028	.172	.092	.028		
6.0	.185	.093	.027	.181	.092	.026	.175	.089	.026	.168	.087	.026	.162	.085	.025		
7.0	.173	.086	.024	.170	.085	.024	.164	.083	.024	.158	.081	.024	.153	.080	.023		
8.0	.163	.079	.022	.160	.079	.022	.154	.077	.022	.149	.076	.022	.145	.074	.022		
9.0	.153	.074	.021	.151	.073	.021	.146	.072	.020	.141	.071	.020	.137	.070	.020		
10.0	.145	.069	.019	.142	.069	.019	.138	.068	.019	.134	.067	.019	.130	.065	.019		

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	.176	.157	.139	.151	.134	.119	.103	.092	.083	.059	.054	.048	.019	.017	.016	
2.0	.166	.132	.104	.142	.114	.090	.097	.079	.063	.056	.046	.037	.018	.015	.012	
3.0	.156	.114	.080	.134	.098	.070	.092	.068	.049	.053	.040	.029	.017	.013	.009	
4.0	.148	.100	.064	.127	.087	.055	.087	.060	.039	.050	.035	.023	.016	.012	.008	
5.0	.140	.089	.052	.120	.077	.045	.083	.054	.032	.048	.032	.019	.015	.010	.006	
6.0	.132	.081	.043	.114	.070	.038	.079	.049	.027	.046	.029	.016	.015	.009	.005	
7.0	.126	.073	.037	.108	.064	.032	.075	.045	.023	.043	.026	.013	.014	.009	.004	
8.0	.119	.067	.032	.103	.058	.028	.071	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.114	.062	.028	.098	.054	.024	.068	.038	.017	.040	.022	.010	.013	.007	.003	
10.0	.108	.058	.024	.093	.050	.021	.065	.035	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:29 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:239.9V I:0.1127A P:25.36W PF:0.9380 Lamp Flux:2585.87x1 lm										
NAME: HIP H LP DIRECT_1160_NA_WHT_NARROW_HE_500mA_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	21.2	22.5	21.5	22.7	22.9	18.5	19.8	18.8	20.0	20.2
3H	22.1	23.3	22.4	23.5	23.8	19.7	20.9	20.0	21.1	21.3
4H	22.4	23.5	22.7	23.7	24.0	20.0	21.2	20.3	21.4	21.7
6H	22.4	23.5	22.7	23.8	24.0	20.2	21.3	20.6	21.6	21.8
8H	22.4	23.4	22.7	23.7	24.0	20.3	21.3	20.6	21.6	21.8
12H	22.4	23.4	22.7	23.7	23.9	20.3	21.2	20.6	21.5	21.8
4H 2H	21.5	22.6	21.8	22.9	23.1	19.4	20.5	19.7	20.8	21.0
3H	22.6	23.6	22.9	23.9	24.2	20.7	21.7	21.0	22.0	22.2
4H	22.9	23.8	23.3	24.1	24.5	21.1	22.0	21.5	22.3	22.7
6H	23.1	23.9	23.5	24.2	24.6	21.4	22.2	21.8	22.5	22.9
8H	23.1	23.8	23.5	24.2	24.6	21.4	22.2	21.8	22.5	22.9
12H	23.1	23.8	23.5	24.1	24.5	21.4	22.1	21.9	22.5	22.9
8H 4H	23.0	23.8	23.4	24.1	24.5	21.4	22.1	21.8	22.5	22.8
6H	23.2	23.8	23.7	24.2	24.7	21.7	22.3	22.1	22.7	23.1
8H	23.3	23.8	23.7	24.2	24.7	21.8	22.3	22.3	22.8	23.2
12H	23.3	23.7	23.7	24.2	24.7	21.8	22.3	22.3	22.8	23.2
12H 4H	23.0	23.7	23.4	24.0	24.4	21.3	22.0	21.8	22.4	22.8
6H	23.2	23.8	23.7	24.2	24.6	21.7	22.3	22.2	22.7	23.1
8H	23.3	23.7	23.8	24.2	24.7	21.8	22.3	22.3	22.7	23.2
Variations with the observer position at spacings:										
S = 1.0H	+ 0.5 / - 0.3					+ 0.2 / - 0.3				
1.5H	+ 0.7 / - 0.8					+ 0.2 / - 0.5				
2.0H	+ 1.4 / - 1.2					+ 0.3 / - 0.6				

CIE Pub.117 Corrected 2586 lm Total Lamp Luminous Flux. (8log(F/F0) = 3.3)

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:29 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:239.9V I:0.1127A P:25.36W PF:0.9380 Lamp Flux:2585.87x1 lm		
NAME: HIP H LP DIRECT_1160_NA_WHT_NARROW_HE_500mA_4000K_CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

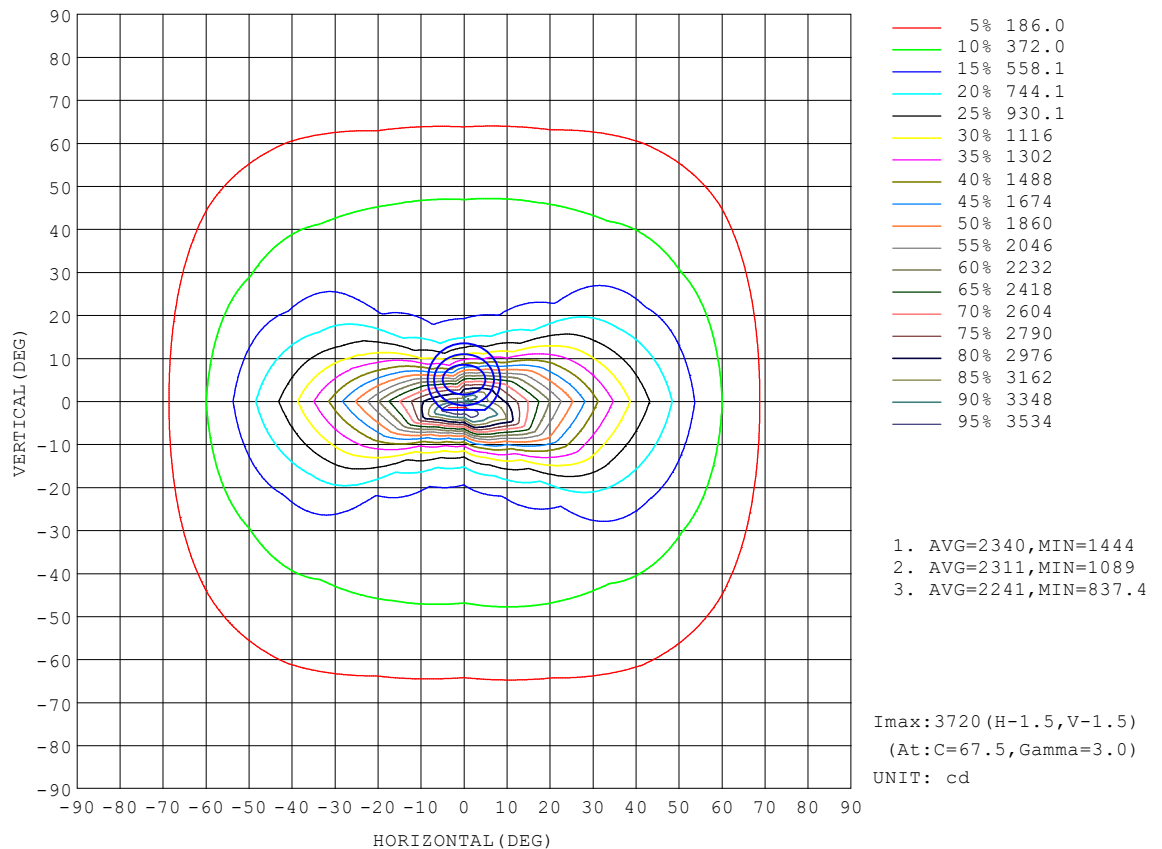
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	66	56	50	66	56	50	65	56	50	44
0.80	76	66	60	75	66	60	73	65	59	53
1.00	83	74	68	82	73	68	80	74	67	61
1.25	90	81	75	88	80	75	86	79	74	67
1.50	94	86	80	92	85	80	90	83	78	72
2.00	100	93	87	98	91	87	95	89	85	78
2.50	103	96	91	101	95	91	97	93	89	81
3.00	106	100	95	104	98	94	100	96	92	84
4.00	109	104	101	107	103	99	103	99	96	88
5.00	111	107	104	109	105	102	104	102	99	91
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:29 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:239.9V I:0.1127A P:25.36W PF:0.9380 Lamp Flux:2585.87x1 lm		
NAME: HIP H LP DIRECT_1160_NA_WHT_NARROW_HE_500mA_4000K_CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

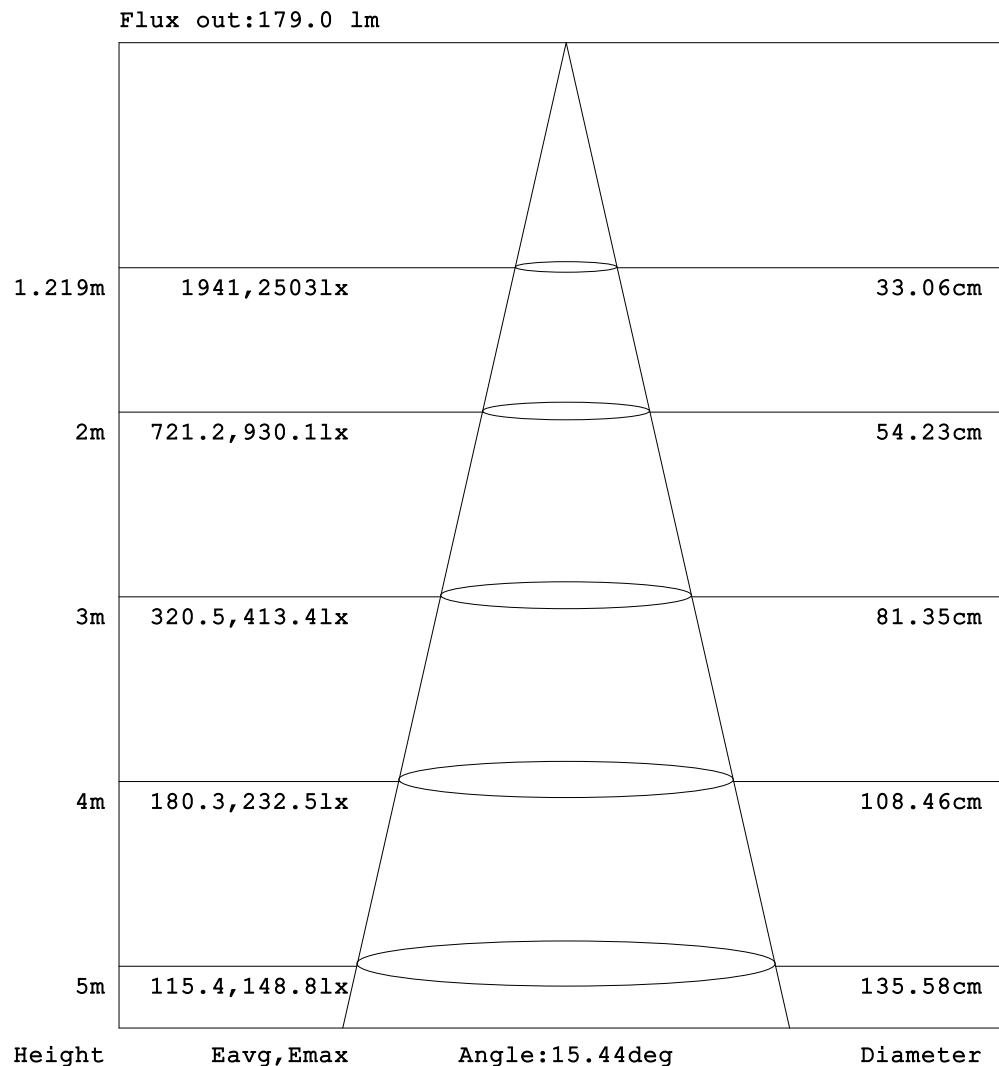


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:29 January 2024

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:239.9V I:0.1127A P:25.36W PF:0.9380 Lamp Flux:2585.87x1 lm		
NAME: HIP H LP DIRECT_1160_NA_WHT_NARROW_HE_500mA_4000K_CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



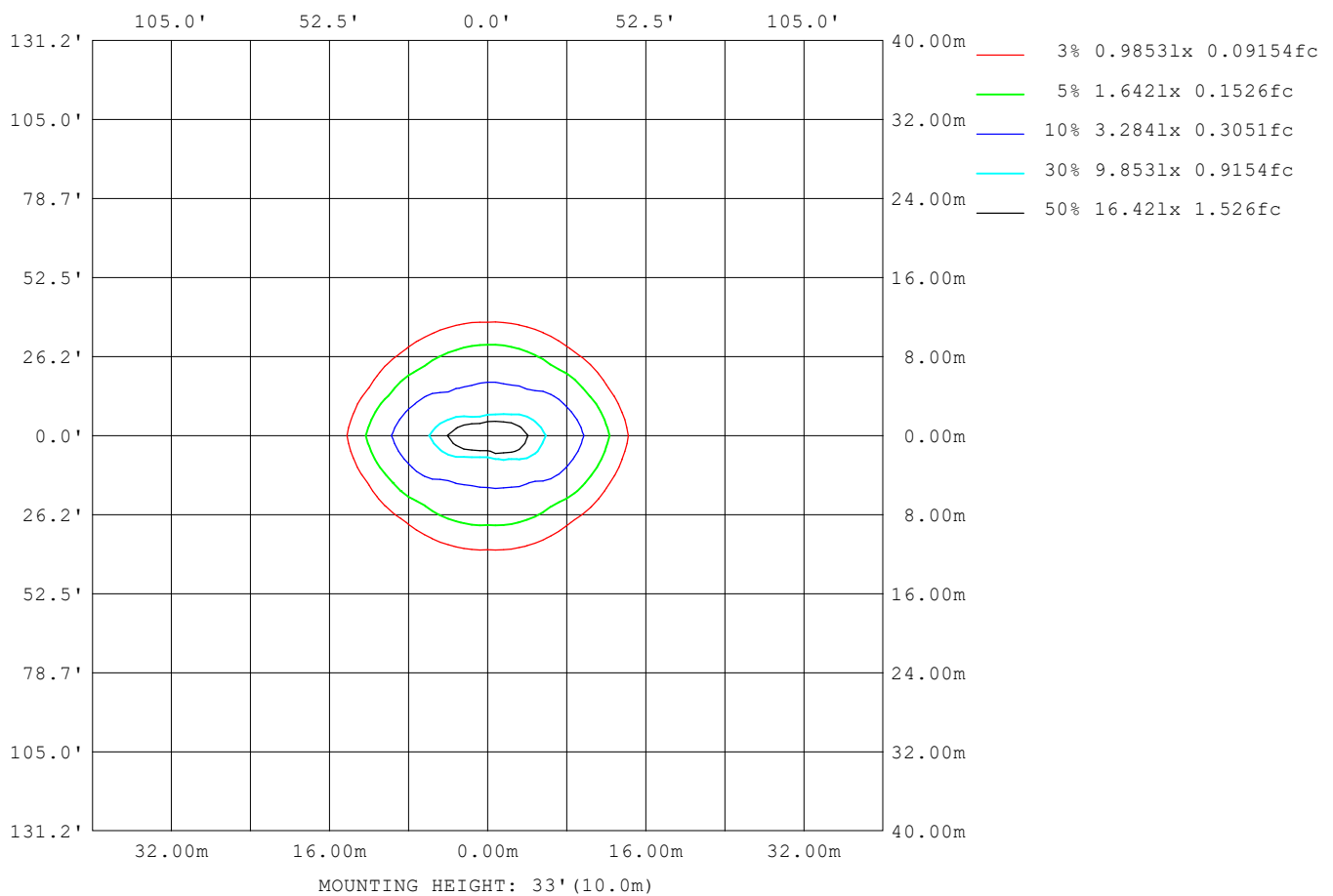
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:29 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:239.9V I:0.1127A P:25.36W PF:0.9380 Lamp Flux:2585.87x1 lm		
NAME: HIP H LP DIRECT_1160_NA_WHT_NARROW_HE_500mA_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:29 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:239.9V I:0.1127A P:25.36W PF:0.9380 Lamp Flux:2585.87x1 lm		
NAME: HIP H LP DIRECT_1160_NA_WHT_NARROW_HE_500mA_4000K_CRI90		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

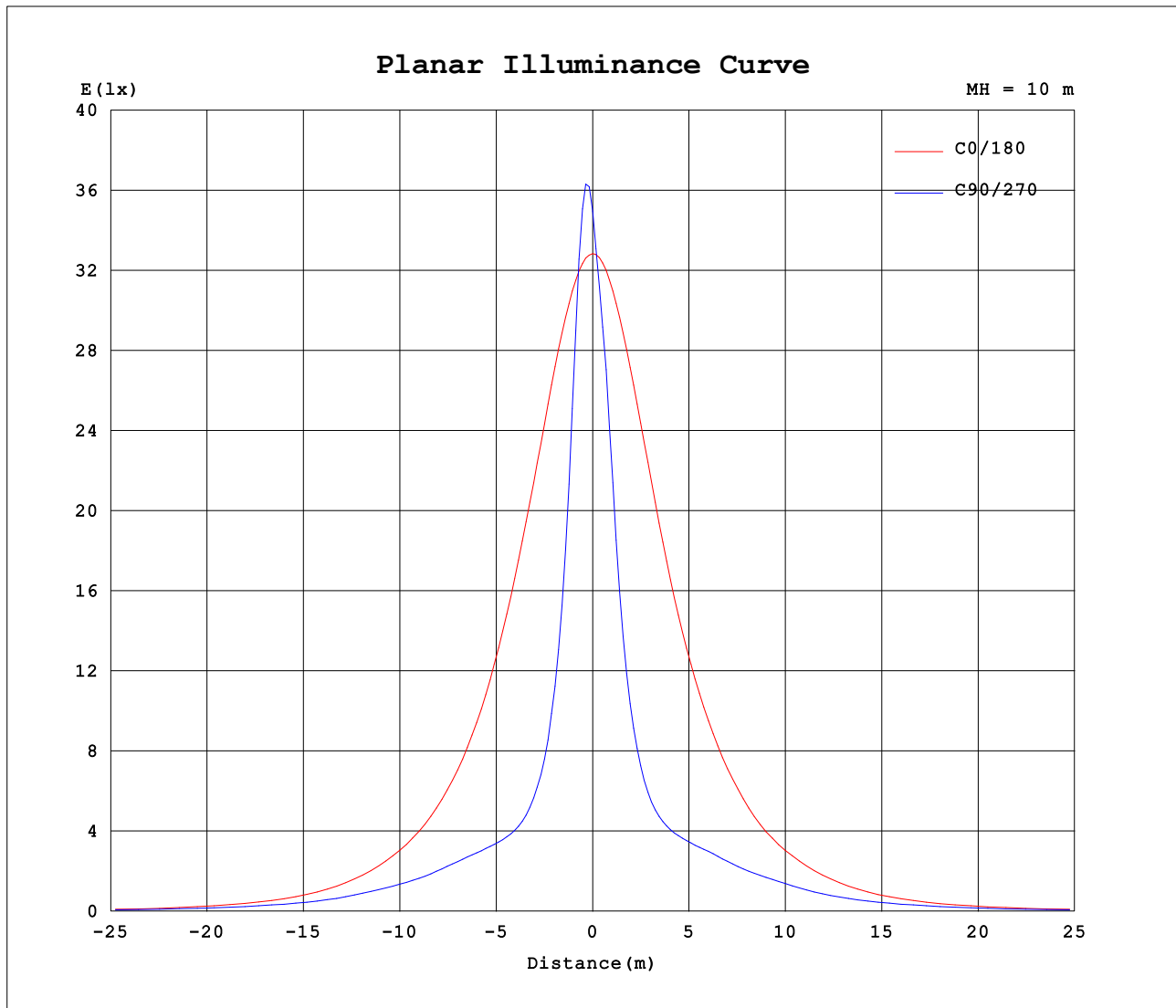
AvgL	cd/m2
L_0~180 (65) av	9269
L_0~180 (75) av	5420
L_0~180 (85) av	2069
L_90~270 (65) av	5938
L_90~270 (75) av	4314
L_90~270 (85) av	2075
L_45 (65) av	8116
L_45 (75) av	5493
L_45 (85) av	2472

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:29 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: 29 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:

