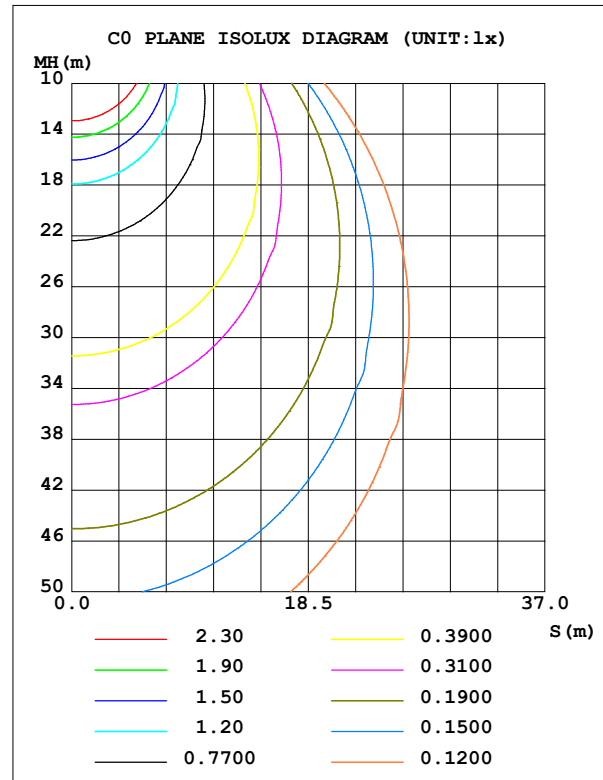
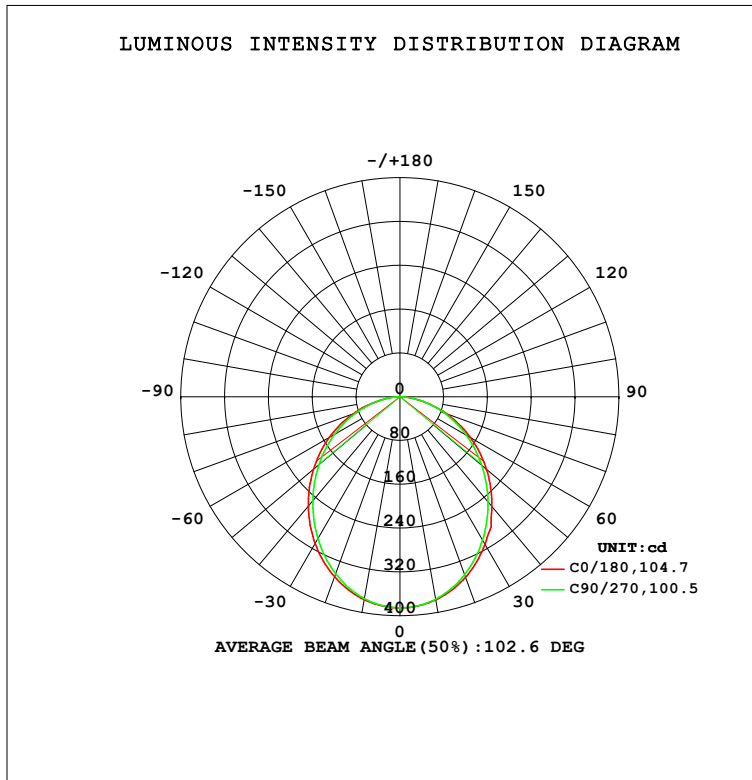


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:240.01V I:0.0605A P:10.981W PF:0.7564 Freq:50.09Hz Lamp Flux:989.451x1 lm		
NAME: HIP H_1165_SUS 2M_WHT_OV_HE_200mA_4K_INDIRECT	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 90.10 lm/W
IMC024x280mm 650lm 840 HV ADV5		I <sub>max</sub> (cd)	385.4	S/MH (C0/180)		1.20
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)		1.17
RATED VOLTAGE (V)	230.0	TOTAL FLUX (lm)	989.45	η UP,DN (C0-180)		0.0,50.2
NOMINAL FLUX (lm)	989.451	CIE CLASS	DIRECT	η UP,DN (C180-360)		0.0,49.8
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



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:05 August 2019

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [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	376.6	376.1	375.5	376.0	376.2	375.2	374.3	375.5	0- 10	36.33	36.33	3.67,3.67
20	350.7	348.5	346.0	348.2	349.8	346.6	343.9	347.1	10- 20	102.5	138.8	14,14
30	310.9	306.7	302.2	306.5	309.9	304.5	299.5	305.0	20- 30	151.0	289.8	29.3,29.3
40	261.5	255.9	250.3	255.9	260.6	253.9	247.7	254.2	30- 40	175.8	465.7	47.1,47.1
50	206.4	200.7	195.3	201.0	206.0	199.2	193.1	199.3	40- 50	175.8	641.5	64.8,64.8
60	148.5	144.0	140.0	144.6	149.2	143.6	138.4	143.3	50- 60	154.0	795.5	80.4,80.4
70	90.06	87.69	85.78	88.69	90.68	87.34	84.01	86.53	60- 70	114.4	909.8	92,92
80	33.91	34.52	35.04	35.68	34.93	34.83	33.95	33.78	70- 80	63.74	973.6	98.4,98.4
90	0.5161	1.306	1.893	1.455	0.5627	1.504	1.909	1.411	80- 90	15.89	989.5	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): 555.04 lm

%lum = 56.1%

%lamp = 56.1%

Conical surface Flux(120deg): 795.46 lm

%lum = 80.4%

%lamp = 80.4%

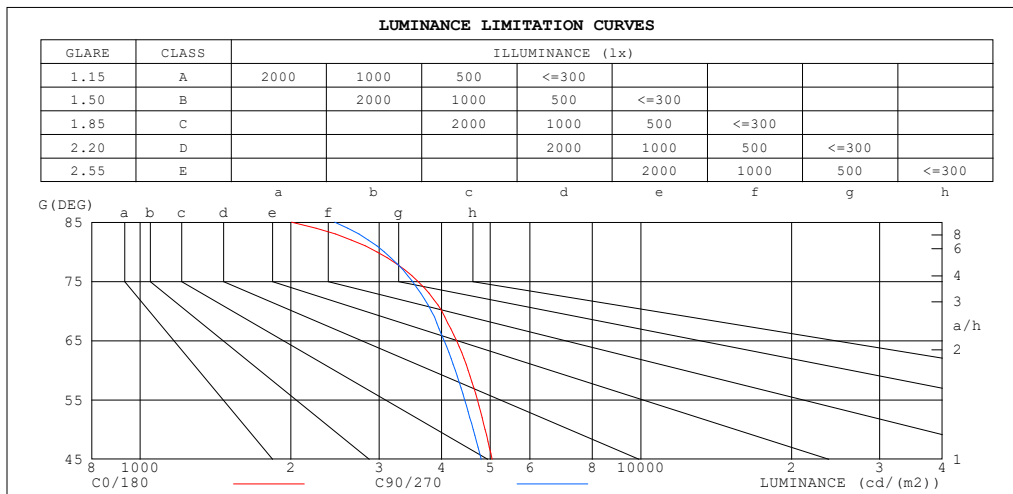
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:05 August 2019

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:



**LUMINANCE LIMITATION CURVES**

Test:U:240.01V I:0.0605A P:10.981W PF:0.7564 Freq:50.09Hz Lamp Flux:989.451x1 lm		
NAME: HIP H_1165_SUS 2M_WHT_OV_HE_200mA_4K_INDIRECT	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	2007	2447
80	2972	3072
75	3588	3498
70	4007	3817
65	4286	4046
60	4520	4261
55	4716	4448
50	4887	4625
45	5046	4801

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:05 August 2019

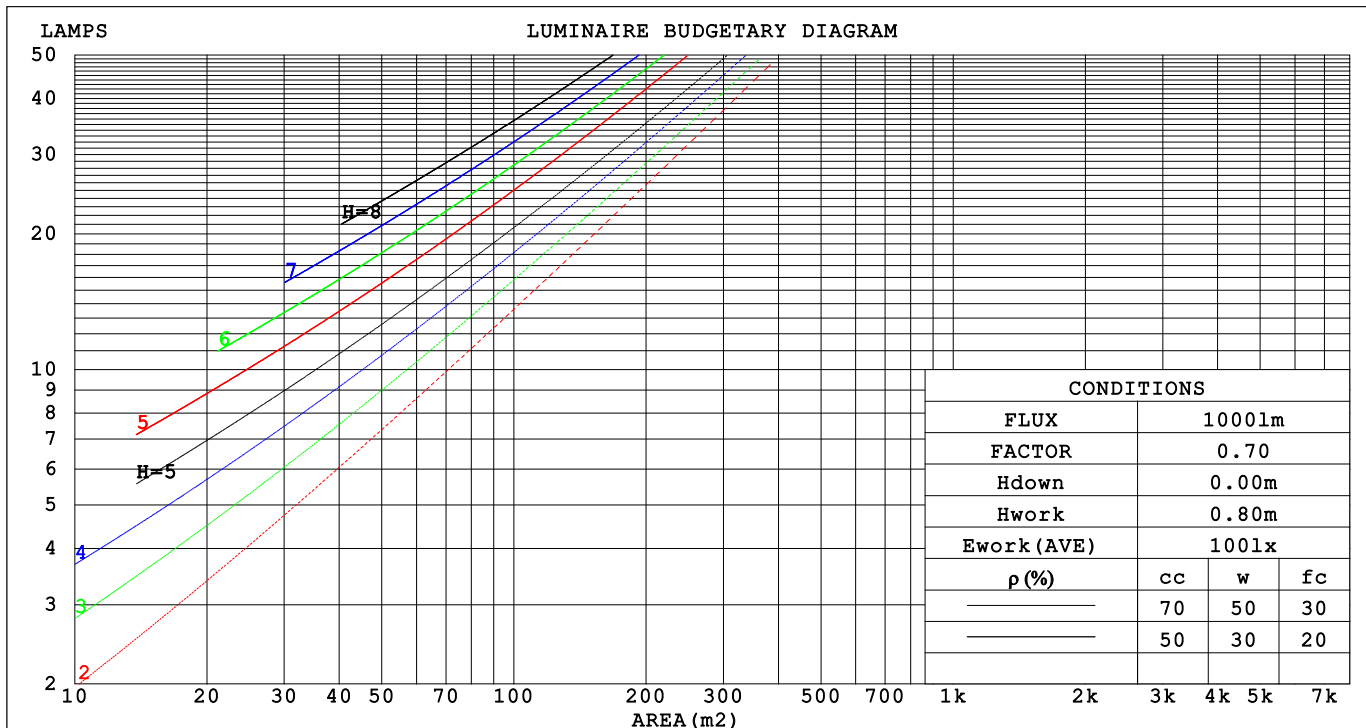
γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:



**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:240.01V I:0.0605A P:10.981W PF:0.7564 Freq:50.09Hz Lamp Flux:989.451x1 lm		
NAME: HIP H_1165_SUS 2M_WHT_OV_HE_200mA_4K_INDIRECT	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															



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:05 August 2019

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:



**WEC AND CCEC**

Test:U:240.01V I:0.0605A P:10.981W PF:0.7564 Freq:50.09Hz Lamp Flux:989.451x1 lm		
NAME: HIP H_1165_SUS 2M_WHT_OV_HE_200mA_4K_INDIRECT	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	.154	.050	.257	.149	.048	
2.0	.284	.156	.048	.278	.153	.047	.266	.148	.046	.255	.143	.045	.245	.139	.044	
3.0	.263	.140	.042	.258	.138	.042	.248	.134	.041	.238	.131	.040	.229	.127	.039	
4.0	.244	.127	.037	.239	.125	.037	.230	.122	.036	.221	.119	.036	.214	.116	.035	
5.0	.226	.115	.033	.222	.114	.033	.213	.111	.033	.206	.109	.032	.199	.106	.032	
6.0	.210	.105	.030	.206	.104	.030	.199	.102	.030	.192	.100	.029	.186	.098	.029	
7.0	.195	.097	.027	.192	.096	.027	.186	.094	.027	.180	.092	.027	.174	.090	.027	
8.0	.183	.089	.025	.180	.089	.025	.174	.087	.025	.169	.085	.025	.164	.084	.024	
9.0	.172	.083	.023	.169	.082	.023	.164	.081	.023	.159	.080	.023	.154	.078	.023	
10.0	.161	.077	.021	.159	.077	.021	.154	.076	.021	.150	.074	.021	.146	.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	.180	.156	.135	.154	.134	.116	.105	.092	.080	.061	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.147	.114	.086	.100	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.163	.114	.075	.140	.099	.065	.096	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.156	.101	.059	.133	.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	.035	.084	.050	.024	.048	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.115	.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	.069	.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:05 August 2019

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:



**UGR(Unified Glare Rating) Table**

Test:U:240.01V I:0.0605A P:10.981W PF:0.7564 Freq:50.09Hz Lamp Flux:989.451x1 lm											
NAME: HIP H_1165_SUS 2M_WHT_OV_HE_200mA_4K_INDIRECT					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	2H	18.2	19.7	18.5	19.9	20.1	18.0	19.5	18.2	19.7	19.9
	3H	19.7	21.1	20.0	21.3	21.5	19.4	20.8	19.7	21.0	21.2
	4H	20.2	21.5	20.5	21.8	22.0	19.9	21.3	20.3	21.5	21.8
	6H	20.6	21.8	20.9	22.1	22.3	20.3	21.6	20.7	21.8	22.1
	8H	20.6	21.8	21.0	22.1	22.4	20.4	21.6	20.8	21.9	22.2
	12H	20.7	21.8	21.0	22.1	22.4	20.5	21.6	20.9	21.9	22.2
4H	2H	18.8	20.1	19.1	20.3	20.6	18.6	19.9	18.9	20.1	20.4
	3H	20.4	21.6	20.8	21.8	22.1	20.2	21.3	20.5	21.6	21.9
	4H	21.1	22.1	21.4	22.4	22.8	20.9	21.9	21.2	22.2	22.6
	6H	21.5	22.5	21.9	22.8	23.2	21.4	22.3	21.8	22.6	23.0
	8H	21.7	22.5	22.1	22.9	23.3	21.5	22.4	21.9	22.7	23.1
	12H	21.7	22.5	22.1	22.9	23.3	21.6	22.4	22.0	22.8	23.2
8H	4H	21.3	22.2	21.7	22.5	22.9	21.1	22.0	21.5	22.3	22.7
	6H	21.9	22.6	22.3	23.0	23.4	21.7	22.5	22.2	22.9	23.3
	8H	22.1	22.7	22.5	23.1	23.6	22.0	22.6	22.4	23.0	23.5
	12H	22.2	22.7	22.7	23.2	23.7	22.1	22.7	22.6	23.1	23.6
12H	4H	21.3	22.1	21.7	22.5	22.9	21.1	21.9	21.5	22.3	22.7
	6H	21.9	22.6	22.4	23.0	23.4	21.8	22.4	22.2	22.8	23.3
	8H	22.2	22.7	22.6	23.2	23.6	22.1	22.6	22.5	23.1	23.5
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, 989.5 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = -0.0$ )

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:05 August 2019

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:



**UTILIZATION FACTORS TABLE**

Test:U:240.01V I:0.0605A P:10.981W PF:0.7564 Freq:50.09Hz Lamp Flux:989.451x1 lm		
NAME: HIP H_1165_SUS 2M_WHT_OV_HE_200mA_4K_INDIRECT	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	58	47	41	57	47	40	34
0.80	69	58	50	68	57	50	66	56	50	43
1.00	77	66	59	76	66	59	74	67	58	52
1.25	84	74	67	83	73	67	80	72	66	59
1.50	89	80	73	87	79	72	85	77	71	64
2.00	96	88	81	94	86	80	91	84	79	71
2.50	100	92	86	98	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		

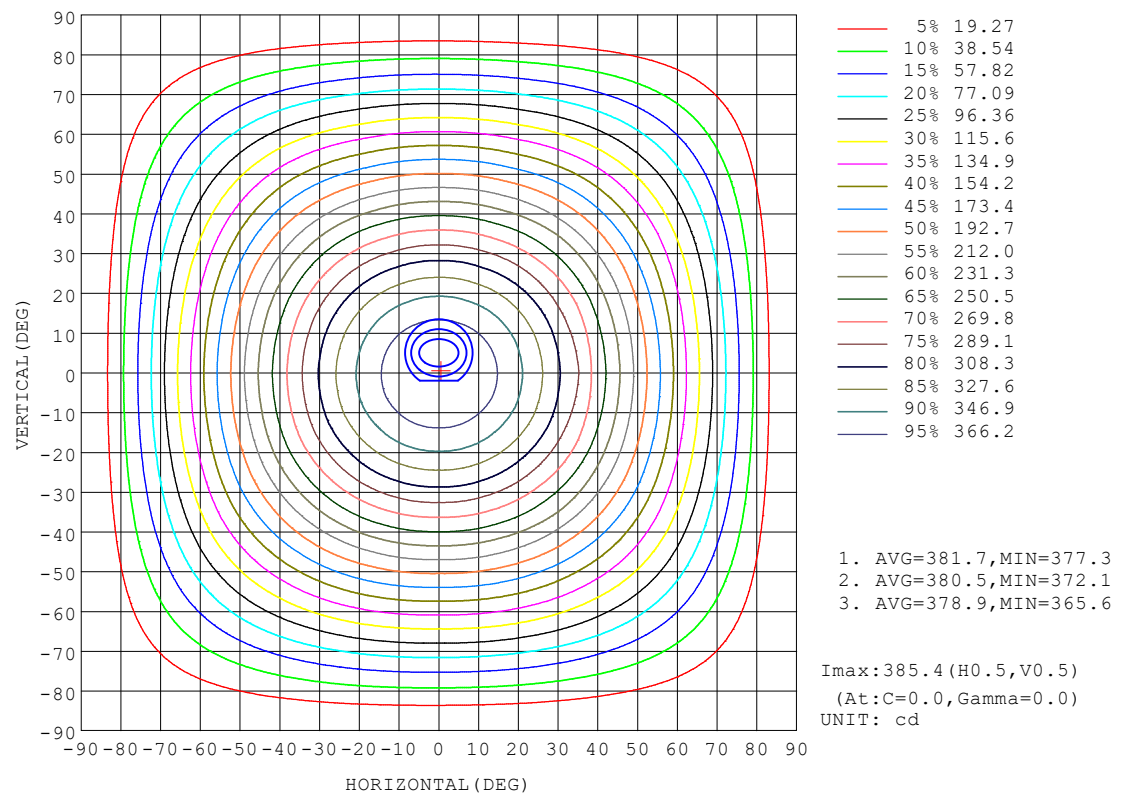
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:05 August 2019

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:



**ISOCANDELA DIAGRAM**

Test:U:240.01V I:0.0605A P:10.981W PF:0.7564 Freq:50.09Hz Lamp Flux:989.45lx1 lm		
NAME: HIP H_1165_SUS 2M_WHT_OV_HE_200mA_4K_INDIRECT	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



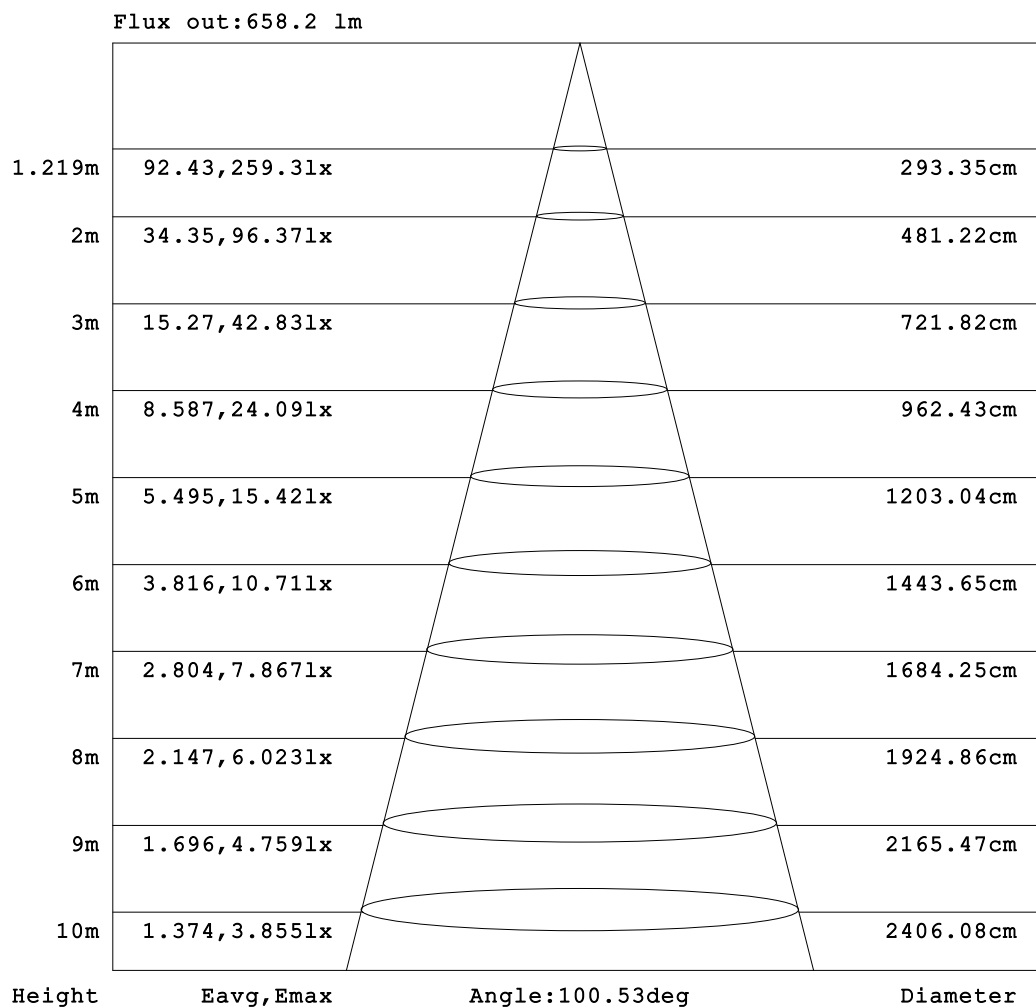
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:05 August 2019

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:



**AAI Figure**

Test:U:240.01V I:0.0605A P:10.981W PF:0.7564 Freq:50.09Hz Lamp Flux:989.45lx1 lm		
NAME: HIP H_1165_SUS 2M_WHT_OV_HE_200mA_4K_INDIRECT	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.

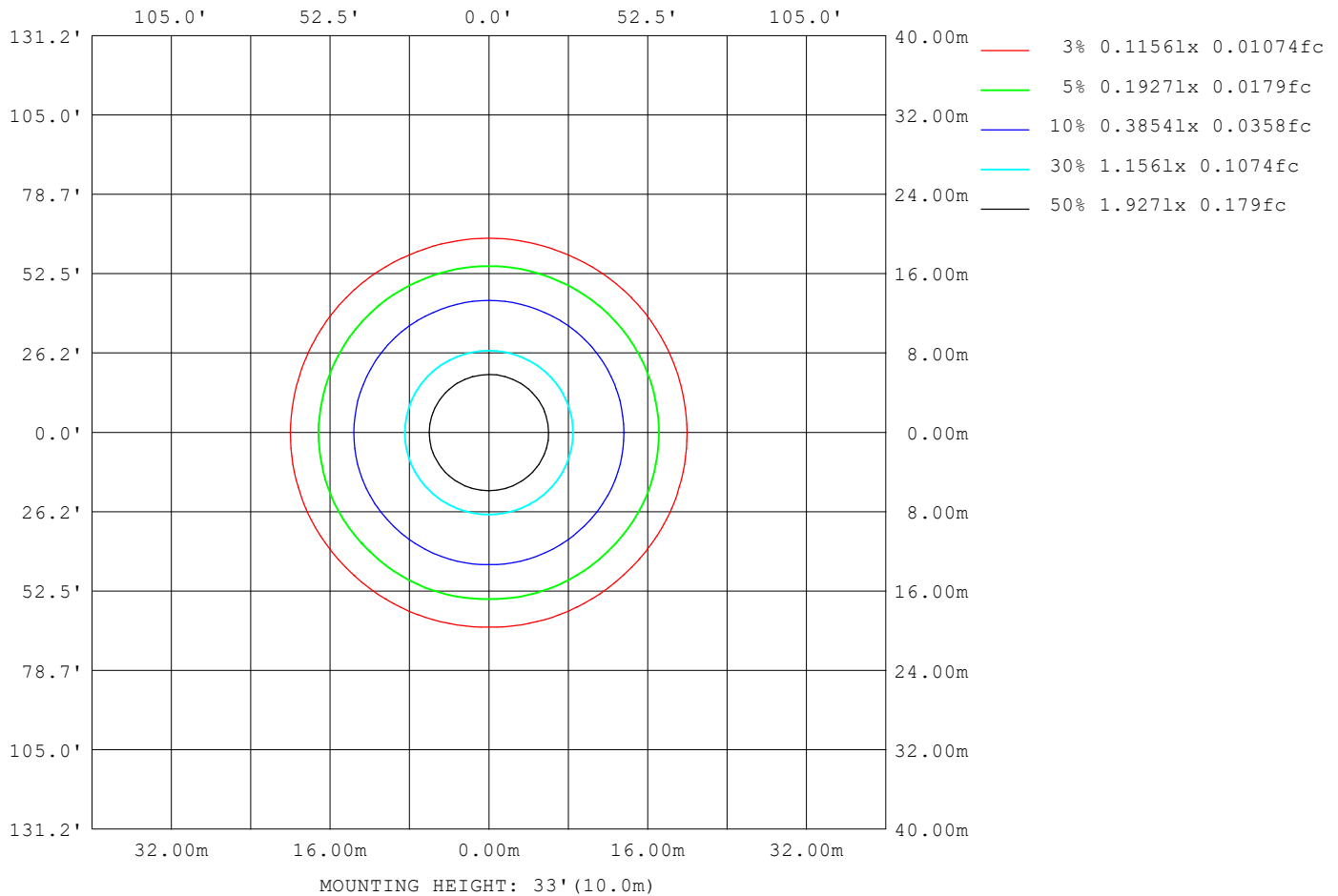
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:05 August 2019

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:



**ISOLUX DIAGRAM**

Test:U:240.01V I:0.0605A P:10.981W PF:0.7564 Freq:50.09Hz Lamp Flux:989.451x1 lm		
NAME: HIP H_1165_SUS 2M_WHT_OV_HE_200mA_4K_INDIRECT	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:05 August 2019

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:



**LED Avg.L Report**

Test:U:240.01V I:0.0605A P:10.981W PF:0.7564 Freq:50.09Hz Lamp Flux:989.45lx1 lm		
NAME: HIP H_1165_SUS 2M_WHT_OV_HE_200mA_4K_INDIRECT	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

AvgL	cd/m2
L_0~180(65)av	4302
L_0~180(75)av	3614
L_0~180(85)av	2085
L_90~270(65)av	4021
L_90~270(75)av	3454
L_90~270(85)av	2389
L_45(65)av	4158
L_45(75)av	3537
L_45(85)av	2297

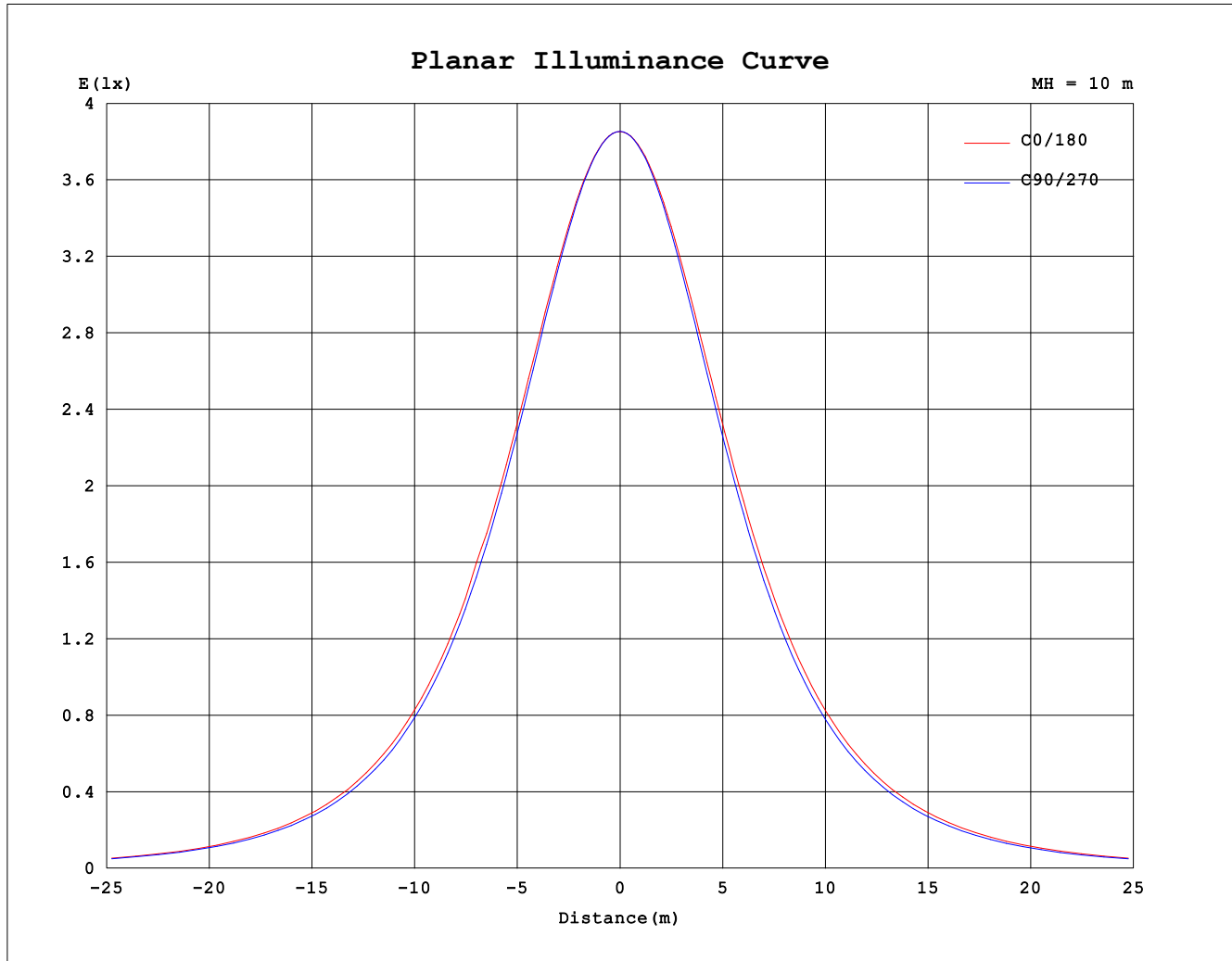
Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:05 August 2019

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [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: 05 August 2019

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity: 65.0%  
Test Distance: 7.220m [K=1.0000]  
Remarks:



```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.220m [K=1.0000]
Remarks:

```