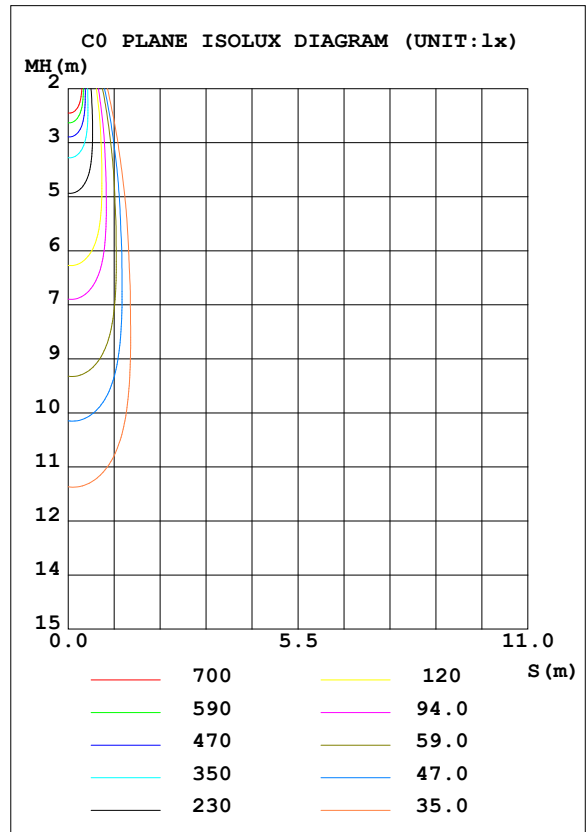
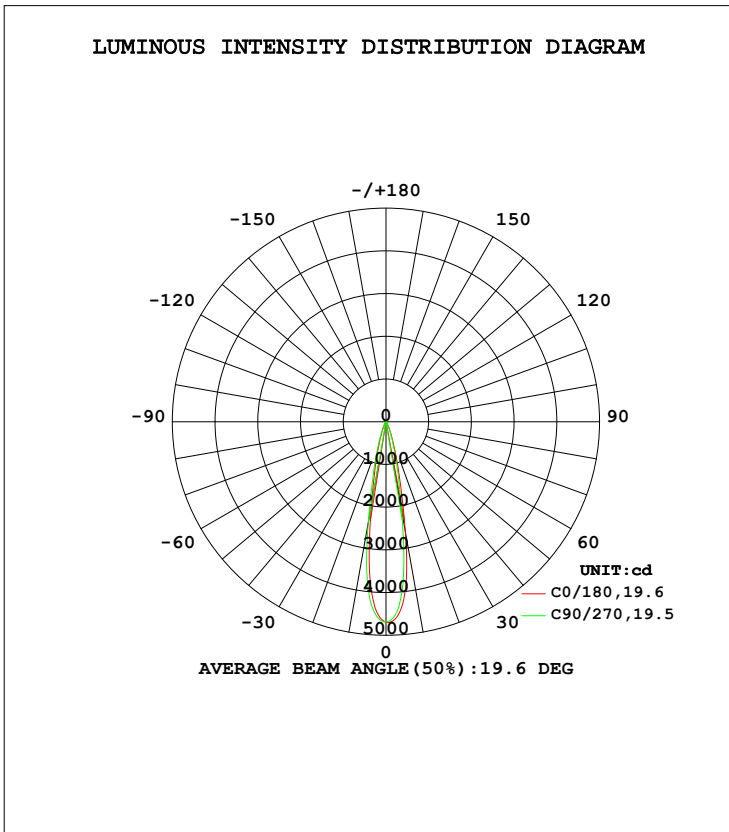


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:33.170V I:0.2500A P:8.2925W PF:1.0000 Freq:0Hz Lamp Flux:733.05x1 lm		
NAME: XDL E4-WRA-L19030-20DW	TYPE:Downlight	SERIAL No.:
SPEC.: XOB 3000K CRI 90	DIM.: φ108mm*H126mm	
MFR.: SBC Xicato Corp		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 88.40 lm/W			
MODEL	XOB 3000K 90CRI	I <sub>max</sub> (cd)	4698	S/MH (C0/180)	0.31
NOMINAL POWER (W)	9	LOR (%)	100.0	S/MH (C90/270)	0.34
RATED VOLTAGE (V)	36	TOTAL FLUX (lm)	733.05	η UP, DN (C0-180)	0.0, 51.4
NOMINAL FLUX (lm)	733.05	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 48.6
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	34	η down (%)	100.0	CIBSE SHR MAX	1.00



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Jasoan  
 Test Date: 2024-05-22

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.421  
 Humidity: 58%  
 Test Distance: 9.016m [K=1.0000]  
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum,lamp
10	2620	2115	1961	2394					0- 10	334.3	334.3	45.6,45.6
20	442.9	382.5	353.5	410.8					10- 20	277.3	611.6	83.4,83.4
30	86.89	83.97	78.56	87.41					20- 30	86.28	697.8	95.2,95.2
40	19.45	18.36	19.91	21.80					30- 40	28.90	726.7	99.1,99.1
50	1.261	0.8683	1.323	1.675					40- 50	5.738	732.5	99.9,99.9
60	0.2354	0.1778	0.2411	0.2609					50- 60	0.4090	732.9	100,100
70	0.0445	0.0254	0.0191	0.0510					60- 70	0.1050	733.0	100,100
80	0.0254	0.0254	0.0191	0.0254					70- 80	0.0299	733.0	100,100
90	0.0254	0.0254	0.0191	0.0191					80- 90	0.0256	733.0	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): 731.05 lm

%lum = 99.7%  
 %lamp = 99.7%

Conical surface Flux(120deg): 732.89 lm

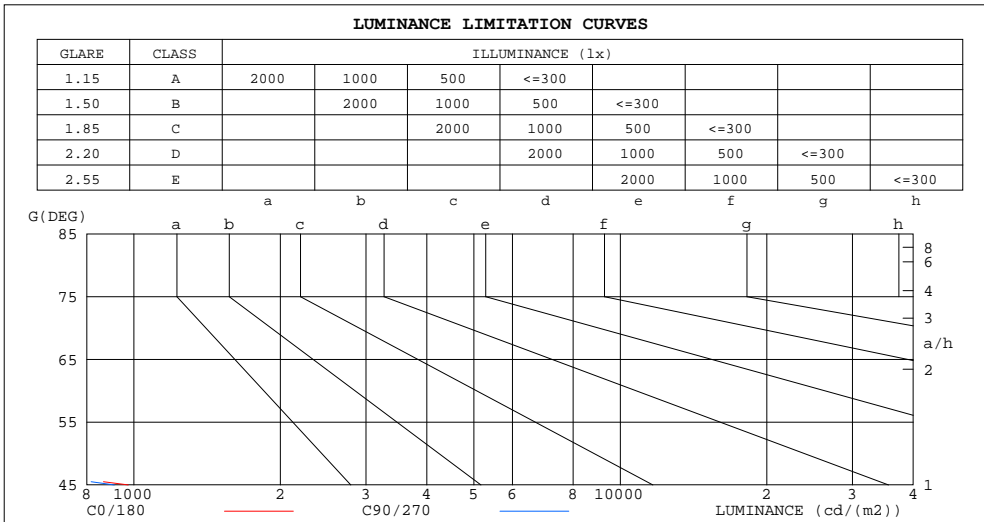
%lum = 100.0%  
 %lamp = 100.0%

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2024-05-22

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.421  
 Humidity:58%  
 Test Distance:9.016m [K=1.0000]  
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:33.170V I:0.2500A P:8.2925W PF:1.0000 Freq:0Hz Lamp Flux:733.05x1 lm		
NAME: XDL E4-WRA-L19030-20DW	TYPE:Downlight	SERIAL No.:
SPEC.: XOB 3000K CRI 90	DIM.: φ108mm*H126mm	
MFR.: SBC Xicato Corp		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	32	32
80	16	16
75	13	11
70	14	8
65	28	16
60	51	39
55	75	65
50	214	148
45	974	912

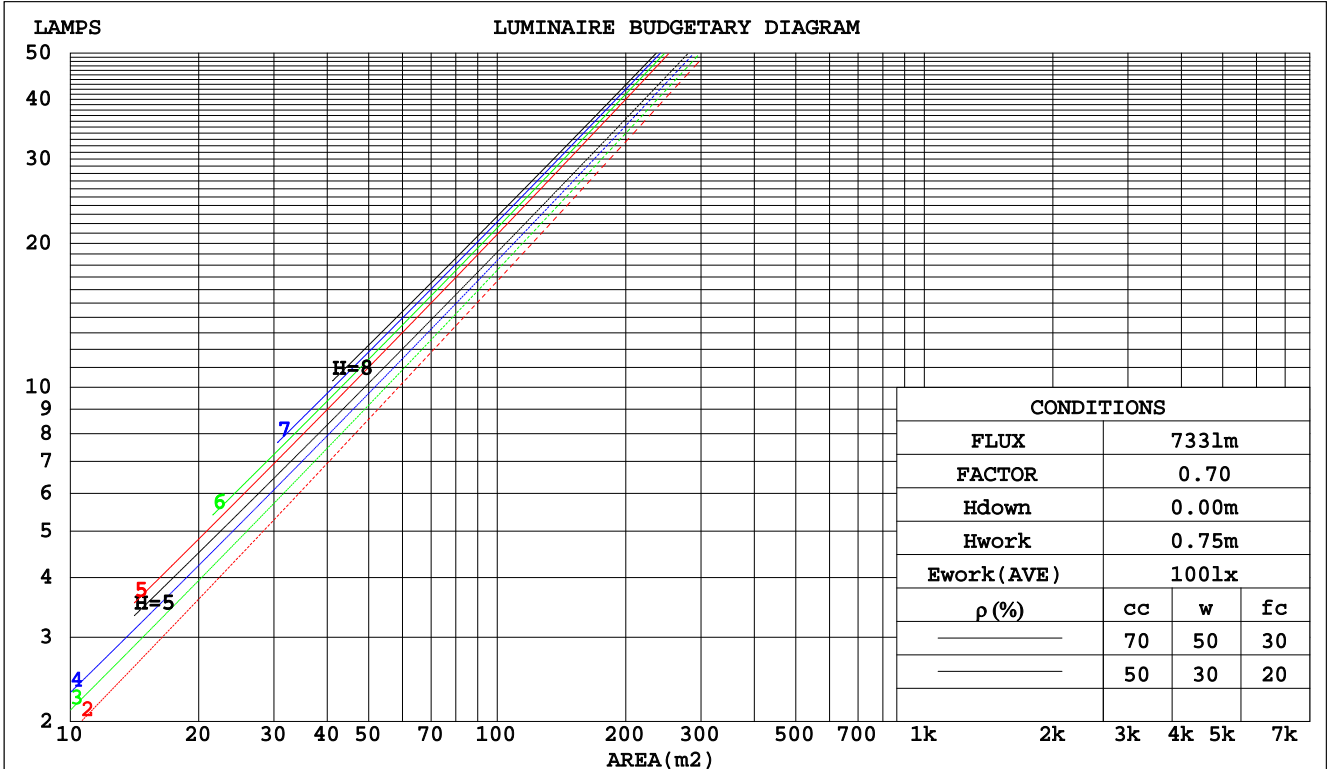
C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Jasoan  
 Test Date: 2024-05-22

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.421  
 Humidity: 58%  
 Test Distance: 9.016m [K=1.0000]  
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:33.170V I:0.2500A P:8.2925W PF:1.0000 Freq:0Hz Lamp Flux:733.05x1 lm		
NAME: XDL E4-WRA-L19030-20DW	TYPE:Downlight	SERIAL No.:
SPEC.: XOB 3000K CRI 90	DIM.: φ108mm*H126mm	
MFR.: SBC Xicato Corp		

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															
	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	1.13	1.12	1.10	1.11	1.10	1.08	1.07	1.06	1.05	1.04	1.03	1.02	1.00	.00	.99	.97
2.0	1.08	1.06	1.03	1.07	1.04	1.02	1.04	1.02	.00	1.01	.99	.98	.98	.97	.96	.94
3.0	1.04	1.01	.98	1.03	.00	.97	1.01	.98	.96	.98	.96	.95	.96	.95	.93	.92
4.0	1.01	.97	.94	.00	.96	.94	.98	.95	.93	.96	.93	.92	.94	.92	.91	.89
5.0	.97	.94	.91	.97	.93	.90	.95	.92	.90	.94	.91	.89	.92	.90	.88	.87
6.0	.94	.91	.88	.94	.90	.88	.93	.89	.87	.91	.89	.87	.90	.88	.86	.85
7.0	.92	.88	.85	.91	.88	.85	.90	.87	.85	.89	.86	.84	.88	.86	.84	.83
8.0	.89	.86	.83	.89	.85	.83	.88	.85	.83	.87	.84	.82	.86	.84	.82	.81
9.0	.87	.84	.81	.87	.83	.81	.86	.83	.81	.85	.83	.80	.85	.82	.80	.79
10.0	.85	.82	.79	.85	.81	.79	.84	.81	.79	.84	.81	.79	.83	.80	.79	.78



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Jasoan  
 Test Date: 2024-05-22

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.421  
 Humidity: 58%  
 Test Distance: 9.016m [K=1.0000]  
 Remarks:

WEC AND CCEC

Test:U:33.170V I:0.2500A P:8.2925W PF:1.0000 Freq:0Hz Lamp Flux:733.05x1 lm		
NAME: XDL E4-WRA-L19030-20DW	TYPE:Downlight	SERIAL No.:
SPEC.: XOB 3000K CRI 90	DIM.: φ108mm*H126mm	
MFR.: SBC Xicato Corp		

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.129	.073	.023	.122	.070	.022	.110	.063	.020	.099	.057	.018	.088	.051	.017	
2.0	.119	.065	.020	.114	.063	.019	.103	.058	.018	.094	.053	.017	.085	.048	.015	
3.0	.110	.059	.018	.106	.057	.017	.097	.053	.016	.090	.049	.015	.082	.046	.014	
4.0	.103	.054	.016	.099	.052	.015	.092	.049	.015	.086	.046	.014	.080	.043	.013	
5.0	.097	.049	.014	.094	.048	.014	.088	.046	.013	.082	.043	.013	.077	.041	.012	
6.0	.091	.046	.013	.089	.045	.013	.083	.043	.012	.079	.041	.012	.074	.039	.012	
7.0	.086	.043	.012	.084	.042	.012	.080	.040	.012	.075	.039	.011	.072	.037	.011	
8.0	.082	.040	.011	.080	.039	.011	.076	.038	.011	.073	.037	.011	.069	.035	.010	
9.0	.078	.038	.011	.077	.037	.010	.073	.036	.010	.070	.035	.010	.067	.034	.010	
10.0	.075	.036	.010	.073	.035	.010	.070	.034	.010	.067	.033	.010	.065	.033	.009	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.168	.158	.149	.144	.135	.128	.098	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.149	.133	.119	.128	.114	.103	.088	.079	.072	.050	.046	.042	.016	.015	.014	
3.0	.134	.113	.097	.115	.098	.084	.079	.068	.059	.045	.040	.035	.015	.013	.011	
4.0	.121	.098	.080	.104	.084	.070	.071	.059	.049	.041	.034	.029	.013	.011	.010	
5.0	.110	.085	.067	.094	.074	.058	.065	.052	.041	.038	.030	.024	.012	.010	.008	
6.0	.101	.075	.057	.087	.065	.049	.060	.046	.035	.035	.027	.021	.011	.009	.007	
7.0	.093	.067	.049	.080	.058	.042	.055	.041	.030	.032	.024	.018	.010	.008	.006	
8.0	.086	.060	.042	.074	.052	.037	.051	.037	.026	.030	.022	.015	.010	.007	.005	
9.0	.080	.054	.036	.069	.047	.032	.048	.033	.023	.028	.020	.013	.009	.006	.004	
10.0	.075	.049	.032	.065	.043	.028	.045	.030	.020	.026	.018	.012	.009	.006	.004	

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2024-05-22

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.421  
 Humidity:58%  
 Test Distance:9.016m [K=1.0000]  
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:33.170V I:0.2500A P:8.2925W PF:1.0000 Freq:0Hz Lamp Flux:733.05x1 lm		
NAME: XDL E4-WRA-L19030-20DW	TYPE:Downlight	SERIAL No.:
SPEC.: XOB 3000K CRI 90	DIM.: φ108mm*H126mm	
MFR.: SBC Xicato Corp		

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	3.8	4.3	3.9	4.5	4.6	3.7	4.3	3.9	4.4	4.6
3H	3.6	4.2	3.8	4.3	4.5	3.5	4.1	3.8	4.3	4.5
4H	3.5	4.1	3.8	4.3	4.5	3.5	4.0	3.7	4.2	4.4
6H	3.4	4.0	3.7	4.2	4.4	3.4	3.9	3.6	4.1	4.3
8H	3.4	3.9	3.7	4.1	4.4	3.3	3.8	3.6	4.1	4.3
12H	3.4	3.8	3.7	4.1	4.3	3.3	3.8	3.6	4.0	4.3
4H 2H	3.5	4.1	3.8	4.3	4.5	3.5	4.0	3.7	4.2	4.4
3H	3.4	3.8	3.7	4.1	4.3	3.3	3.8	3.6	4.0	4.3
4H	3.3	3.7	3.6	4.0	4.3	3.2	3.6	3.5	3.9	4.2
6H	3.2	3.5	3.5	3.9	4.2	3.1	3.5	3.4	3.8	4.1
8H	3.1	3.5	3.5	3.8	4.2	3.0	3.4	3.4	3.7	4.1
12H	3.0	3.4	3.4	3.7	4.1	3.0	3.3	3.4	3.7	4.1
8H 4H	3.1	3.5	3.5	3.8	4.2	3.0	3.4	3.4	3.7	4.1
6H	3.0	3.3	3.4	3.7	4.1	2.9	3.2	3.3	3.6	4.0
8H	2.9	3.2	3.4	3.6	4.0	2.9	3.1	3.3	3.5	4.0
12H	2.9	3.1	3.3	3.5	4.0	2.8	3.0	3.3	3.5	3.9
12H 4H	3.0	3.4	3.4	3.7	4.1	3.0	3.3	3.4	3.7	4.1
6H	2.9	3.2	3.4	3.6	4.0	2.8	3.1	3.3	3.5	4.0
8H	2.9	3.1	3.3	3.5	4.0	2.8	3.0	3.2	3.5	3.9
Variations with the observer position at spacings:										
S = 1.0H	+ 3.8 / -19.8					+ 3.8 / -20.6				
1.5H	+ 6.4 / -18.0					+ 6.3 / -18.2				
2.0H	+ 8.2 / -11.8					+ 8.1 / -12.2				

CIE Pub.117, 733.0 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -1.1)  
 Area: 0.00915624 m2

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2024-05-22

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.421  
 Humidity:58%  
 Test Distance:9.016m [K=1.0000]  
 Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:33.170V I:0.2500A P:8.2925W PF:1.0000 Freq:0Hz Lamp Flux:733.05x1 lm		
NAME: XDL E4-WRA-L19030-20DW	TYPE:Downlight	SERIAL No.:
SPEC.: XOB 3000K CRI 90	DIM.: φ108mm*H126mm	
MFR.: SBC Xicato Corp		

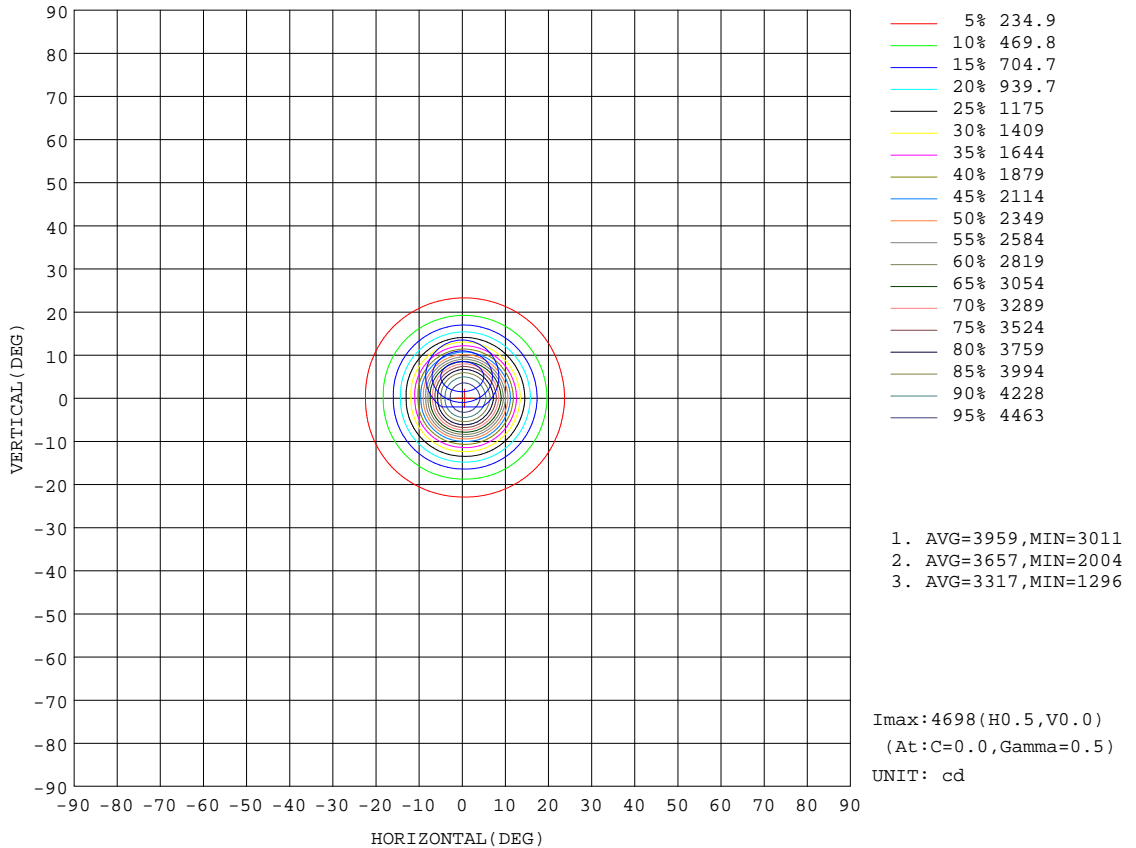
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	91	85	82	91	85	82	90	85	82	79
0.80	98	93	90	97	92	89	96	92	89	86
1.00	102	97	94	101	96	93	99	96	93	89
1.25	105	101	98	104	100	97	102	99	96	93
1.50	108	103	101	107	103	100	104	101	99	95
2.00	110	106	103	108	105	102	106	103	101	96
2.50	111	108	105	110	107	104	107	104	102	97
3.00	113	110	107	111	108	106	108	106	104	98
4.00	115	112	110	113	110	109	109	107	106	99
5.00	116	114	112	114	112	111	110	109	107	100
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2024-05-22

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.421  
 Humidity:58%  
 Test Distance:9.016m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

Test:U:33.170V I:0.2500A P:8.2925W PF:1.0000 Freq:0Hz Lamp Flux:733.05x1 lm		
NAME: XDL E4-WRA-L19030-20DW	TYPE:Downlight	SERIAL No.:
SPEC.: XOB 3000K CRI 90	DIM.: φ108mm*H126mm	
MFR.: SBC Xicato Corp		



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Jasoan  
 Test Date: 2024-05-22

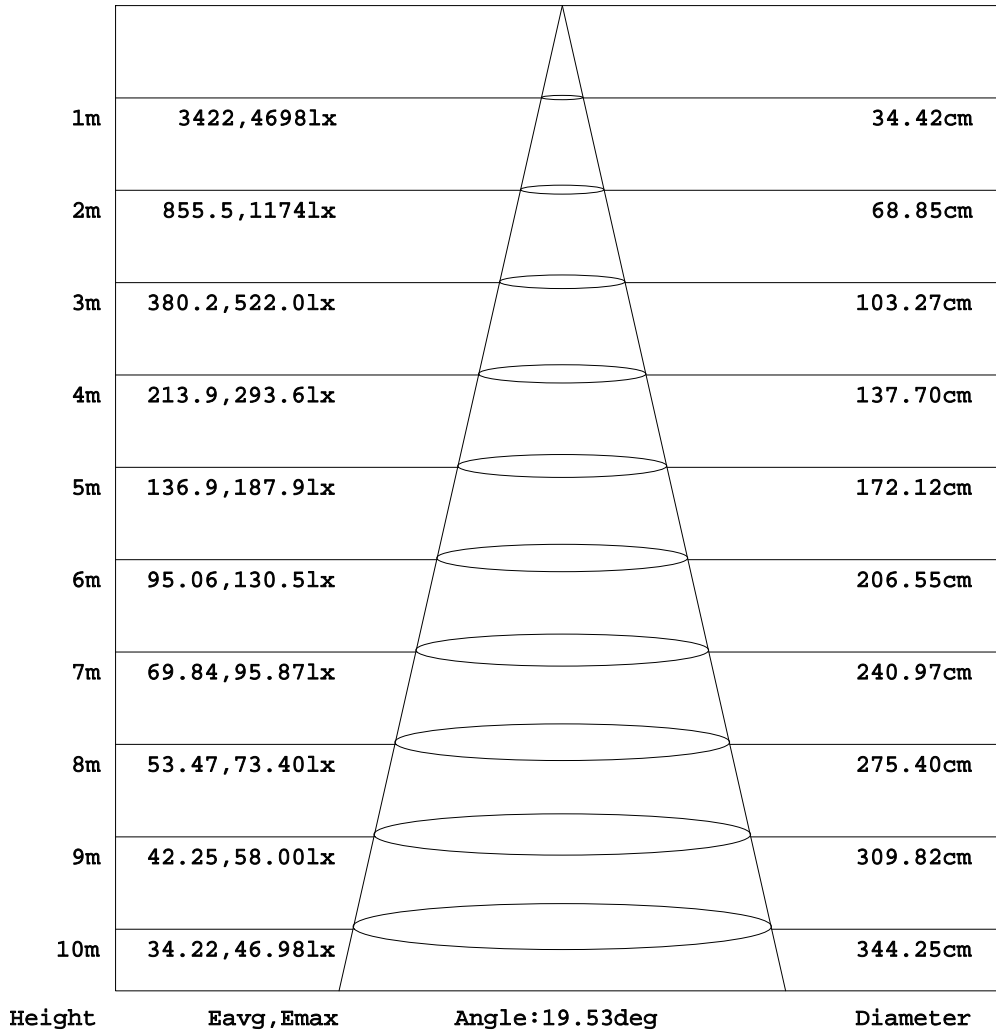
γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.421  
 Humidity: 58%  
 Test Distance: 9.016m [K=1.0000]  
 Remarks:



AAI Figure

Test:U:33.170V I:0.2500A P:8.2925W PF:1.0000 Freq:0Hz Lamp Flux:733.05x1 lm		
NAME: XDL E4-WRA-L19030-20DW	TYPE:Downlight	SERIAL No.:
SPEC.: XOB 3000K CRI 90	DIM.: φ108mm*H126mm	
MFR.: SBC Xicato Corp		

Flux out:334.3 lm



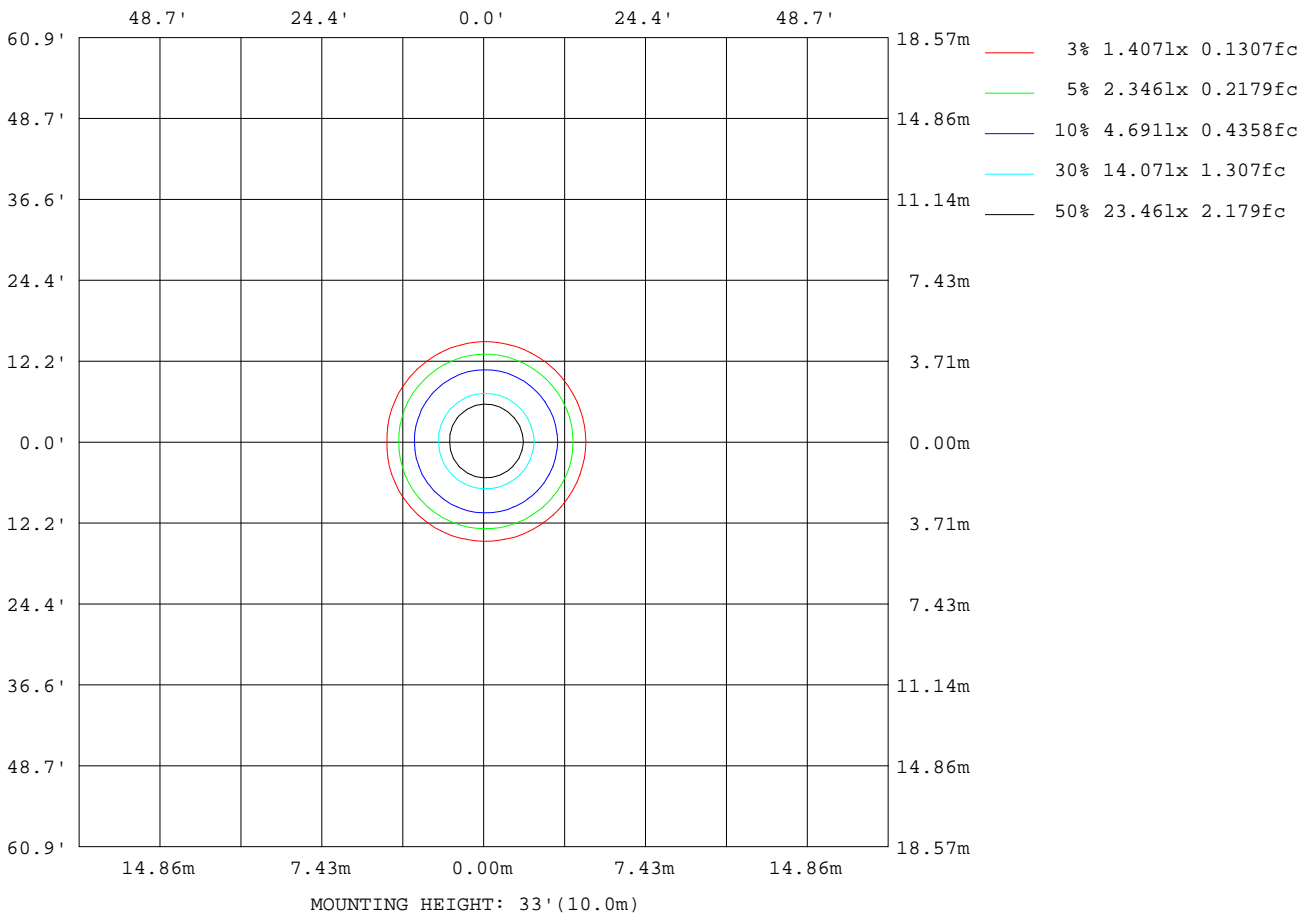
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2024-05-22

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.421  
 Humidity:58%  
 Test Distance:9.016m [K=1.0000]  
 Remarks:

ISOLUX DIAGRAM

Test:U:33.170V I:0.2500A P:8.2925W PF:1.0000 Freq:0Hz Lamp Flux:733.05x1 lm		
NAME: XDL E4-WRA-L19030-20DW	TYPE:Downlight	SERIAL No.:
SPEC.: XOB 3000K CRI 90	DIM.: φ108mm*H126mm	
MFR.: SBC Xicato Corp		



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2024-05-22

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.421  
 Humidity:58%  
 Test Distance:9.016m [K=1.0000]  
 Remarks:

LED Avg.L Report

Test:U:33.170V I:0.2500A P:8.2925W PF:1.0000 Freq:0Hz Lamp Flux:733.05x1 lm		
NAME: XDL E4-WRA-L19030-20DW	TYPE:Downlight	SERIAL No.:
SPEC.: XOB 3000K CRI 90	DIM.: φ108mm*H126mm	
MFR.: SBC Xicato Corp		

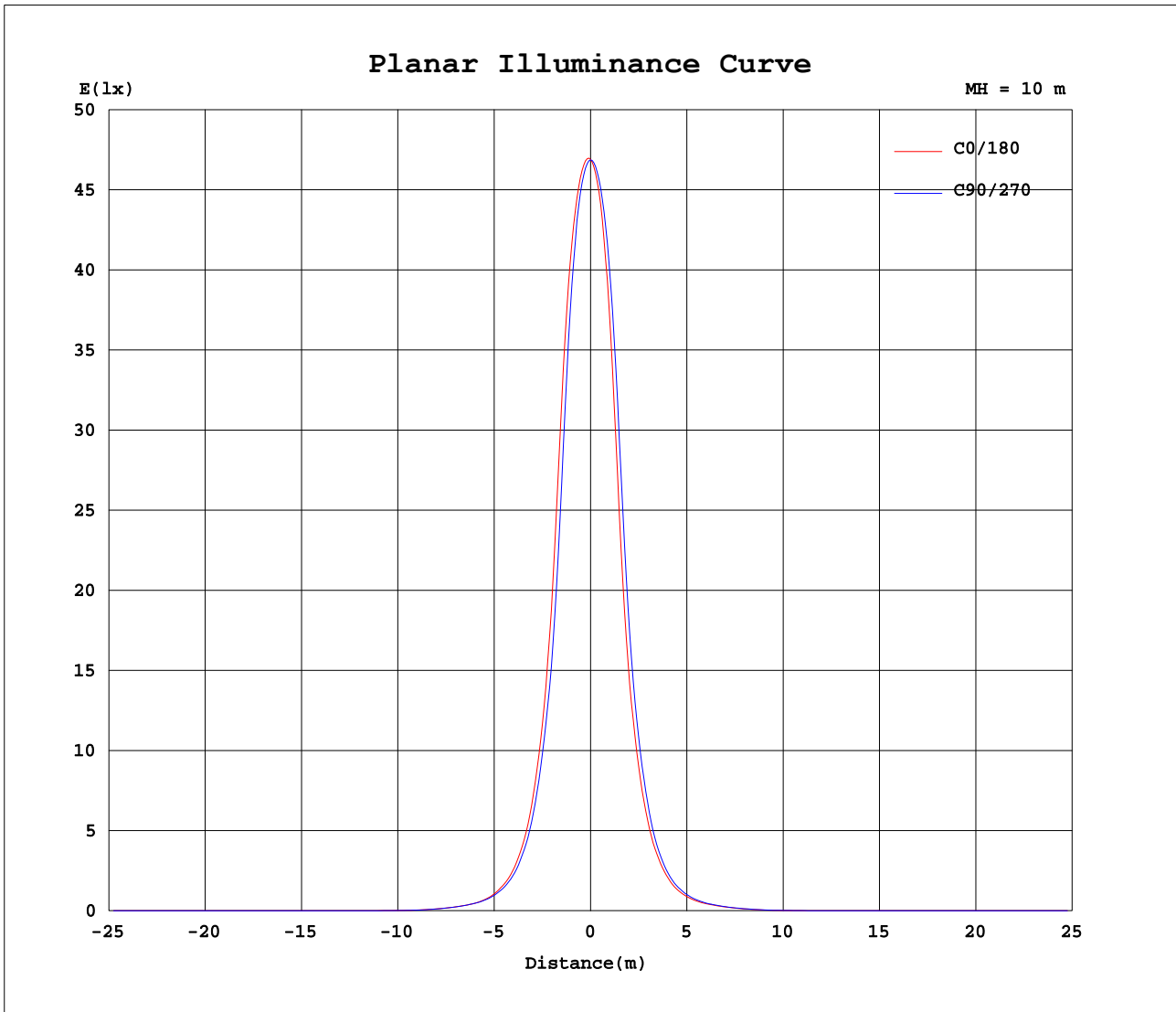
AvgL	cd/m2
L_0~180 (65) av	25
L_0~180 (75) av	11
L_0~180 (85) av	28
L_90~270 (65) av	25
L_90~270 (75) av	11
L_90~270 (85) av	32
L_45 (65) av	25
L_45 (75) av	11
L_45 (85) av	30

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2024-05-22

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.421  
 Humidity:58%  
 Test Distance:9.016m [K=1.0000]  
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Jasoan  
 Test Date: 2024-05-22

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.421  
 Humidity: 58%  
 Test Distance: 9.016m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:33.170V I:0.2500A P:8.2925W PF:1.0000 Freq:0Hz Lamp Flux:733.05x1 lm		
NAME: XDL E4-WRA-L19030-20DW	TYPE:Downlight	SERIAL No.:
SPEC.: XOB 3000K CRI 90	DIM.: φ108mm*H126mm	
MFR.: SBC Xicato Corp		

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	90	180	270																
0	4691	4687	4691	4687																
5	4328	4094	3978	4215																
10	2620	2115	1961	2394																
15	1080	906	833	1003																
20	443	382	353	411																
25	193	171	156	180																
30	86.9	84.0	78.6	87.4																
35	45.1	44.1	44.1	47.1																
40	19.5	18.4	19.9	21.8																
45	6.31	5.90	6.69	7.20																
50	1.26	0.87	1.32	1.67																
55	0.39	0.34	0.42	0.43																
60	0.24	0.18	0.24	0.26																
65	0.11	0.06	0.09	0.13																
70	0.04	0.03	0.02	0.05																
75	0.03	0.03	0.02	0.03																
80	0.03	0.03	0.02	0.03																
85	0.03	0.03	0.02	0.03																
90	0.03	0.03	0.02	0.02																

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2024-05-22

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.421  
 Humidity:58%  
 Test Distance:9.016m [K=1.0000]  
 Remarks: