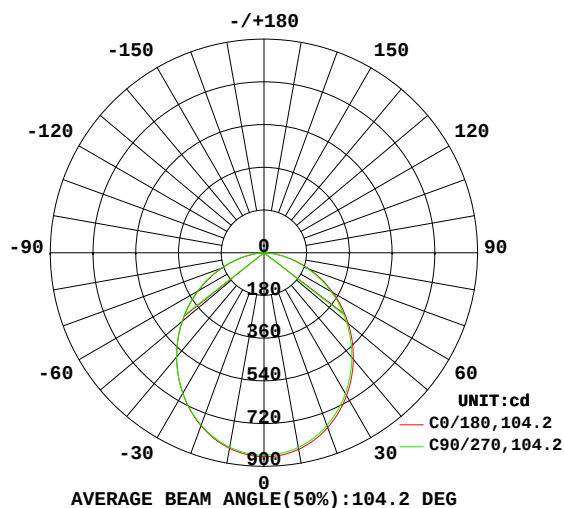


LUMINAIRE PHOTOMETRIC TEST REPORT

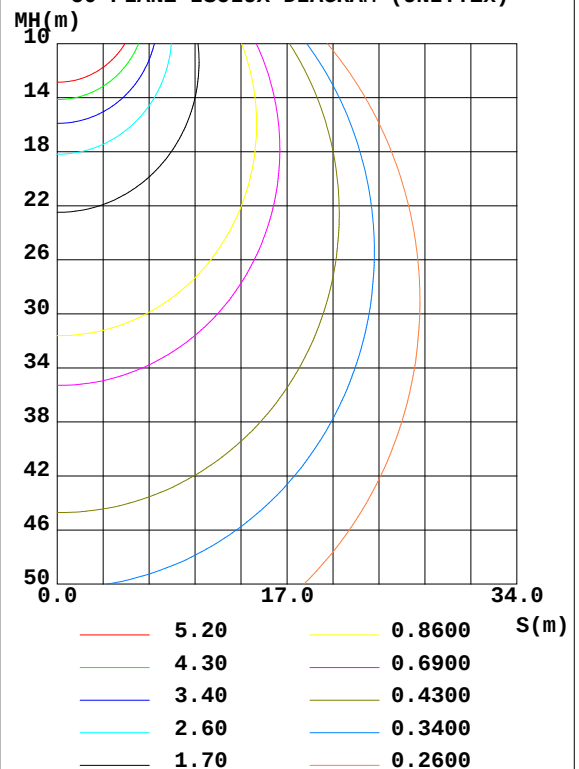
Test:U:230.14V I:0.0968A P:21.341W PF:0.9583 Freq:49.99Hz Lamp Flux:2216.59x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 103.87 lm/W			
MODEL	2835 120 3000K	I _{max} (cd)	859.3	S/MH(C0/180)	1.19
NOMINAL POWER(W)	20	LOR(%)	100.0	S/MH(C90/270)	1.20
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	2216.6	η UP, DN(C0-180)	0.0, 50.3
NOMINAL FLUX(lm)	2216.59	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)	220	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: 25DEG
Operators:
Test Date: 2025-04-22

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity: 65.0%
Test Distance: 7.880m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

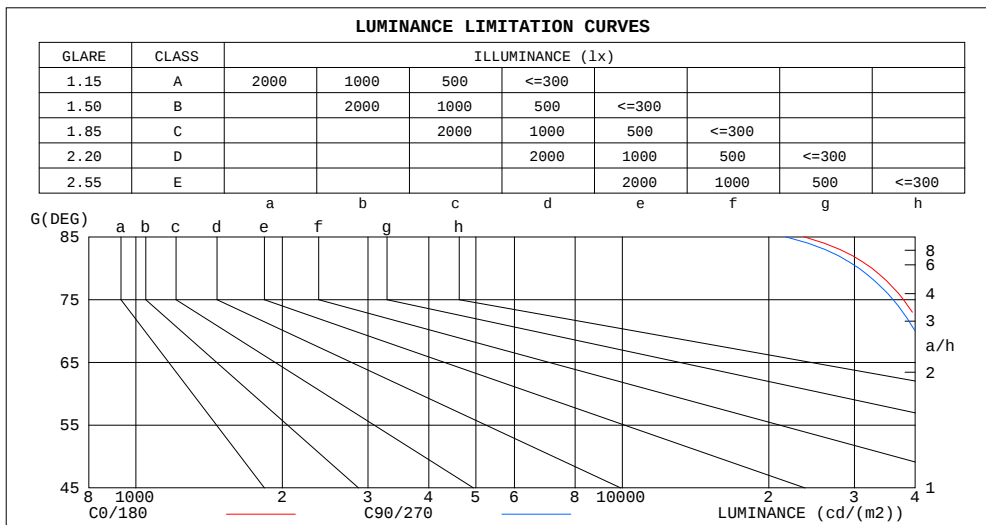
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	841.0	837.2	833.0	829.1	836.9	832.9	832.0	832.4	0- 10	80.54	80.54	3.63, 3.63
20	784.2	780.2	774.9	769.3	775.8	772.2	772.9	775.7	10- 20	227.9	308.5	13.9, 13.9
30	695.6	691.7	685.9	679.1	684.3	681.2	683.7	687.9	20- 30	337.8	646.2	29.2, 29.2
40	585.3	582.3	575.8	568.4	573.0	569.8	573.5	579.1	30- 40	395.5	1042	47, 47
50	463.5	460.4	454.1	446.4	449.0	447.0	451.4	457.7	40- 50	397.6	1439	64.9, 64.9
60	335.0	332.4	326.1	318.2	319.9	318.4	323.4	330.2	50- 60	348.4	1788	80.6, 80.6
70	203.5	202.1	195.7	187.8	188.4	188.0	193.1	199.8	60- 70	257.1	2045	92.2, 92.2
80	80.95	81.71	76.17	68.87	67.50	69.54	73.63	78.29	70- 80	140.1	2185	98.6, 98.6
90	1.075	1.052	0.9922	1.011	1.121	1.130	1.093	1.093	80- 90	31.76	2217	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		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2025-04-22

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
 Humidity: 65.0%
 Test Distance: 7.880m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:230.14V I:0.0968A P:21.341W PF:0.9583 Freq:49.99Hz Lamp Flux:2216.59x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	23632	21661
80	32576	30655
75	37847	36028
70	41588	39985
65	44535	43106
60	46818	45582
55	48724	47586
50	50385	49364
45	51964	50997

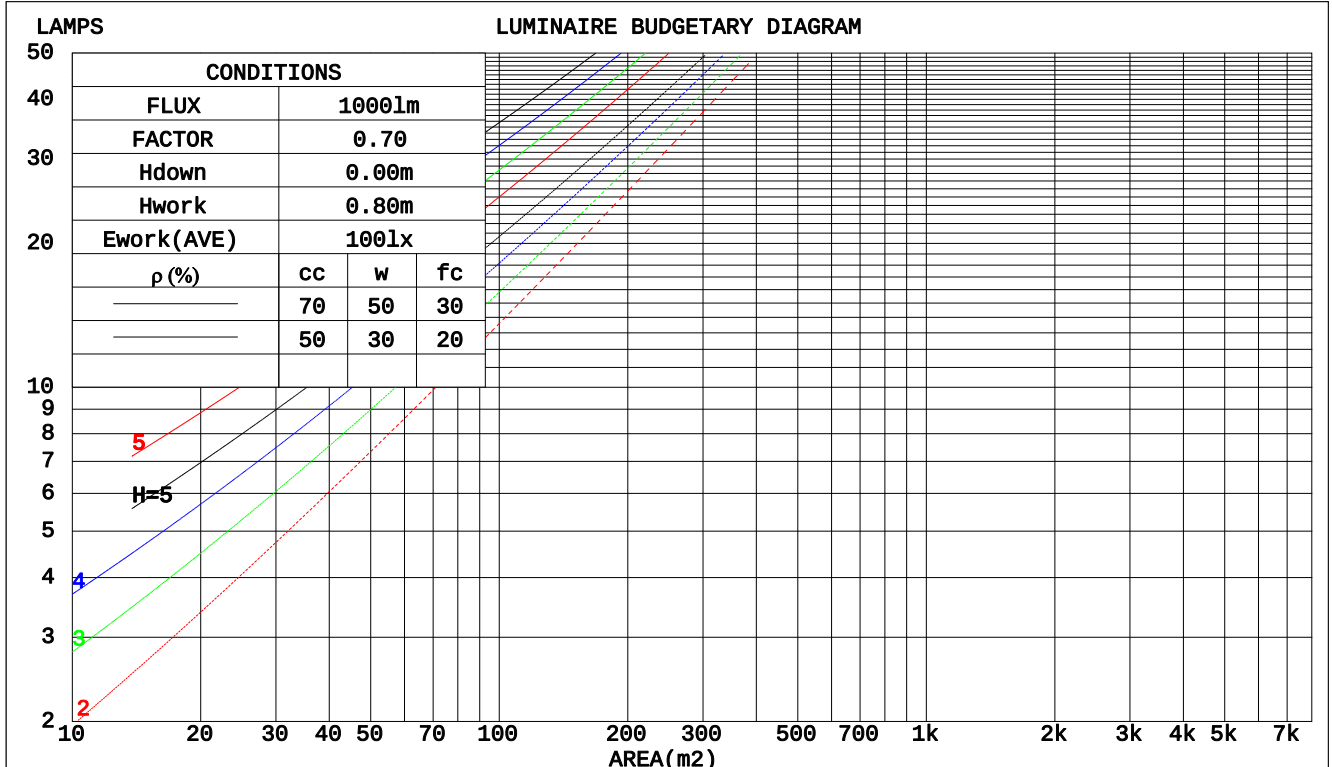
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2025-04-22

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity: 65.0%
Test Distance: 7.880m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.14V I:0.0968A P:21.341W PF:0.9583 Freq:49.99Hz Lamp Flux:2216.59x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	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	.97	1.02	.98	.95	.98	.95	.92	.94	.92	.89	.90	.88	.87	.84
2.0	.91	.85	.79	.89	.83	.78	.86	.81	.76	.83	.78	.75	.80	.76	.73	.71
3.0	.80	.72	.66	.79	.71	.65	.76	.70	.64	.73	.68	.63	.71	.66	.62	.60
4.0	.71	.63	.56	.70	.62	.56	.68	.61	.55	.65	.59	.54	.63	.58	.54	.51
5.0	.64	.55	.49	.63	.55	.48	.61	.53	.48	.59	.52	.47	.57	.51	.47	.45
6.0	.58	.49	.43	.57	.48	.42	.55	.47	.42	.53	.47	.42	.52	.46	.41	.39
7.0	.52	.44	.38	.52	.43	.37	.50	.43	.37	.49	.42	.37	.47	.41	.37	.35
8.0	.48	.39	.34	.47	.39	.34	.46	.39	.33	.45	.38	.33	.43	.37	.33	.31
9.0	.44	.36	.30	.43	.36	.30	.42	.35	.30	.41	.35	.30	.40	.34	.30	.28
10.0	.41	.33	.28	.40	.33	.28	.39	.32	.27	.38	.32	.27	.37	.31	.27	.25



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2025-04-22

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.880m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:230.14V I:0.0968A P:21.341W PF:0.9583 Freq:49.99Hz Lamp Flux:2216.59x1 lm					
NAME: DL2009-WHTC20S01			TYPE:		WEIGHT:
SPEC.: white RA80 3000K+5700K			DIM.:		SERIAL No.:
MFR.:			SUR.: 135mm		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						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.298	.170	.054	.291	.166	.053	.278	.159	.051	.266	.153	.049	.255	.148	.048		
2.0	.283	.155	.048	.277	.152	.047	.265	.147	.046	.254	.143	.045	.244	.138	.044		
3.0	.263	.140	.042	.258	.138	.042	.247	.134	.041	.238	.130	.040	.229	.127	.039		
4.0	.243	.127	.037	.239	.125	.037	.230	.122	.036	.221	.119	.036	.213	.116	.035		
5.0	.226	.115	.033	.221	.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	.196	.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		

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	.180	.156	.135	.154	.134	.116	.105	.092	.081	.060	.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	.155	.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:25DEG
Operators:
Test Date:2025-04-22

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.880m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.14V I:0.0968A P:21.341W PF:0.9583 Freq:49.99Hz Lamp Flux:2216.59x1 lm											
NAME: DL2009-WHTC20S01						TYPE:			WEIGHT:		
SPEC.: white RA80 3000K+5700K						DIM.:			SERIAL No.:		
MFR.:						SUR.: 135mm			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		23.6	25.1	23.9	25.3	25.5	23.5	25.0	23.8	25.2	25.4
	3H	25.1	26.4	25.4	26.7	26.9	24.9	26.3	25.2	26.5	26.8
	4H	25.6	26.9	25.9	27.2	27.4	25.5	26.8	25.8	27.0	27.3
	6H	26.0	27.2	26.3	27.5	27.8	25.8	27.0	26.1	27.3	27.6
	8H	26.1	27.3	26.4	27.6	27.9	25.9	27.1	26.2	27.4	27.7
	12H	26.1	27.3	26.5	27.6	27.9	25.9	27.1	26.3	27.4	27.7
4H	2H	24.2	25.5	24.5	25.7	26.0	24.1	25.4	24.4	25.7	25.9
	3H	25.8	27.0	26.2	27.3	27.6	25.7	26.8	26.1	27.1	27.4
	4H	26.5	27.5	26.9	27.9	28.2	26.4	27.4	26.7	27.7	28.1
	6H	27.0	27.9	27.4	28.3	28.6	26.8	27.8	27.2	28.1	28.5
	8H	27.2	28.0	27.6	28.4	28.8	27.0	27.8	27.4	28.2	28.6
	12H	27.2	28.0	27.7	28.4	28.8	27.0	27.8	27.5	28.2	28.6
8H	4H	26.7	27.6	27.2	28.0	28.4	26.6	27.5	27.0	27.8	28.2
	6H	27.4	28.1	27.8	28.5	28.9	27.2	27.9	27.7	28.3	28.8
	8H	27.6	28.2	28.1	28.7	29.1	27.4	28.1	27.9	28.5	29.0
	12H	27.8	28.3	28.2	28.7	29.2	27.6	28.1	28.1	28.6	29.0
12H	4H	26.7	27.5	27.2	27.9	28.3	26.6	27.4	27.1	27.8	28.2
	6H	27.4	28.1	27.9	28.5	28.9	27.3	27.9	27.7	28.3	28.8
	8H	27.7	28.2	28.2	28.7	29.2	27.5	28.1	28.0	28.5	29.0
Variations with the observer position at spacings(CIE Pub.117):											
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 / - 0.2					+ 0.2 / - 0.3					

CIE Pub.117, 2217 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.8)
Area: 0.01431 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2025-04-22

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.880m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.14V I:0.0968A P:21.341W PF:0.9583 Freq:49.99Hz Lamp Flux:2216.59x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:

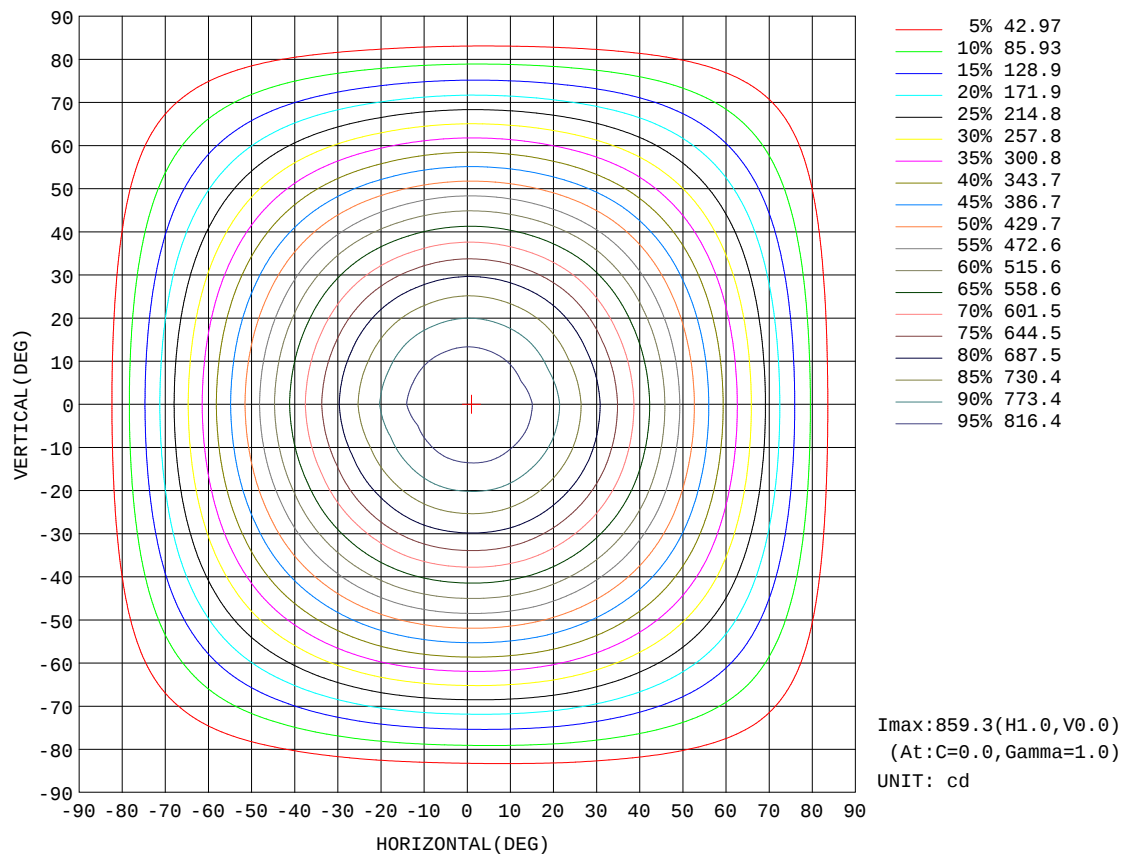
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	59	47	41	58	47	41	57	47	40	34
0.80	69	58	50	68	57	50	66	56	50	43
1.00	77	66	59	76	66	59	74	67	59	52
1.25	84	74	67	83	73	67	80	72	66	59
1.50	89	80	73	88	79	72	85	77	71	64
2.00	96	88	81	94	86	81	91	84	79	71
2.50	100	92	86	98	91	85	94	88	84	75
3.00	103	96	91	101	95	90	97	92	88	79
4.00	107	101	97	104	100	95	100	96	93	84
5.00	109	105	101	107	103	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:25DEG
Operators:
Test Date:2025-04-22

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.880m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:230.14V I:0.0968A P:21.341W PF:0.9583 Freq:49.99Hz Lamp Flux:2216.59x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:

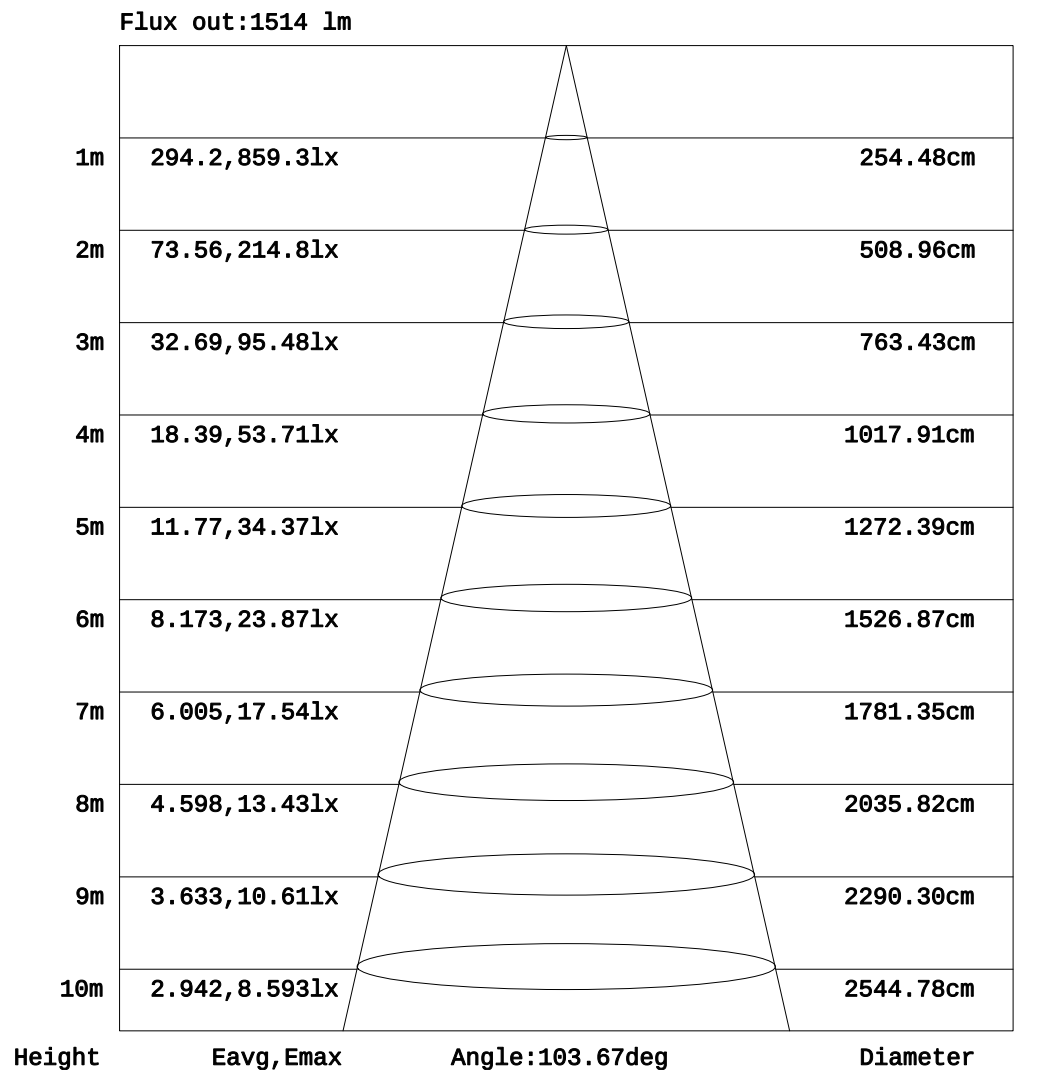


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2025-04-22

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.880m [K=1.0000]
Remarks:

AAI Figure

Test:U:230.14V I:0.0968A P:21.341W PF:0.9583 Freq:49.99Hz Lamp Flux:2216.59x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:



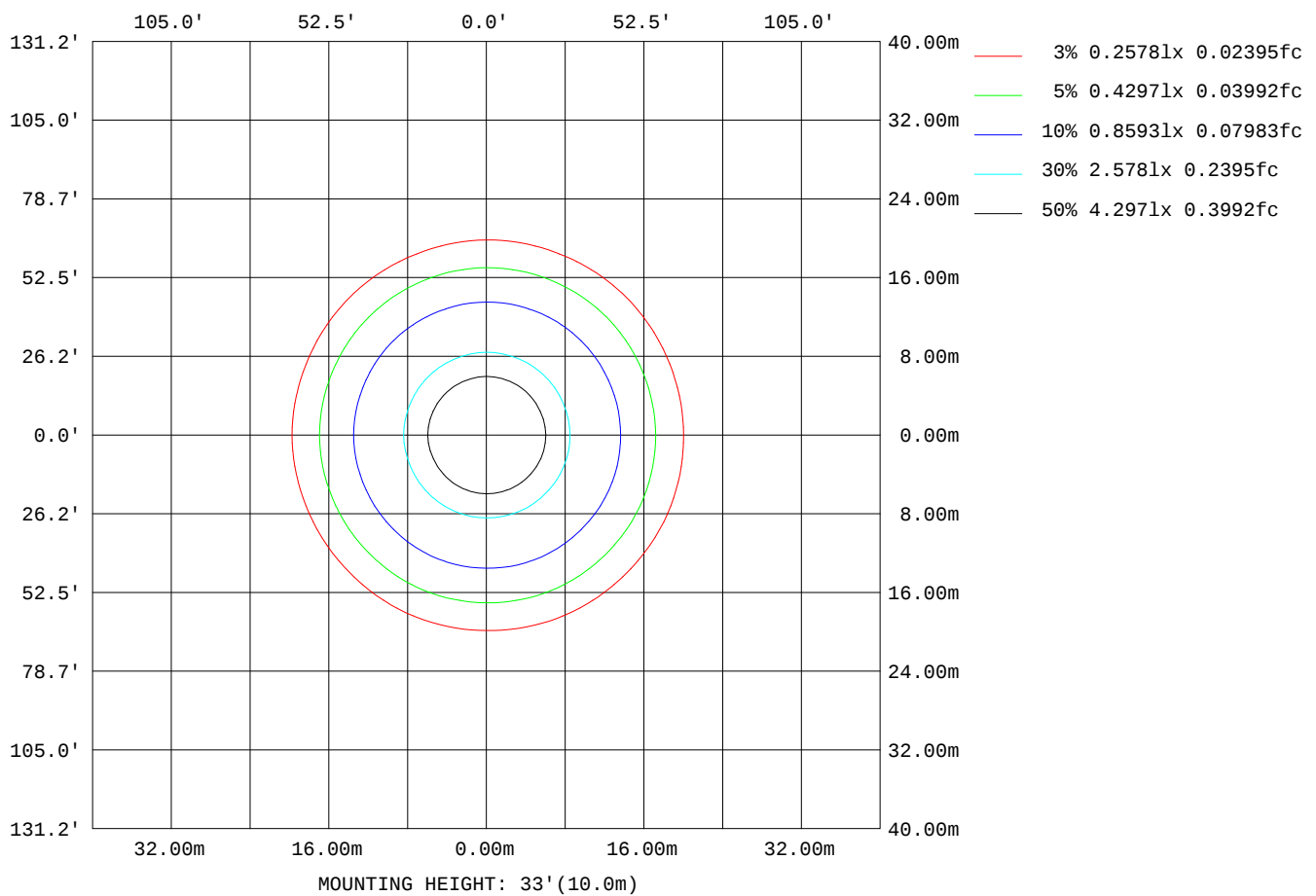
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2025-04-22

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.880m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:230.14V I:0.0968A P:21.341W PF:0.9583 Freq:49.99Hz Lamp Flux:2216.59x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2025-04-22

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity: 65.0%
Test Distance: 7.880m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:230.14V I:0.0968A P:21.341W PF:0.9583 Freq:49.99Hz Lamp Flux:2216.59x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:

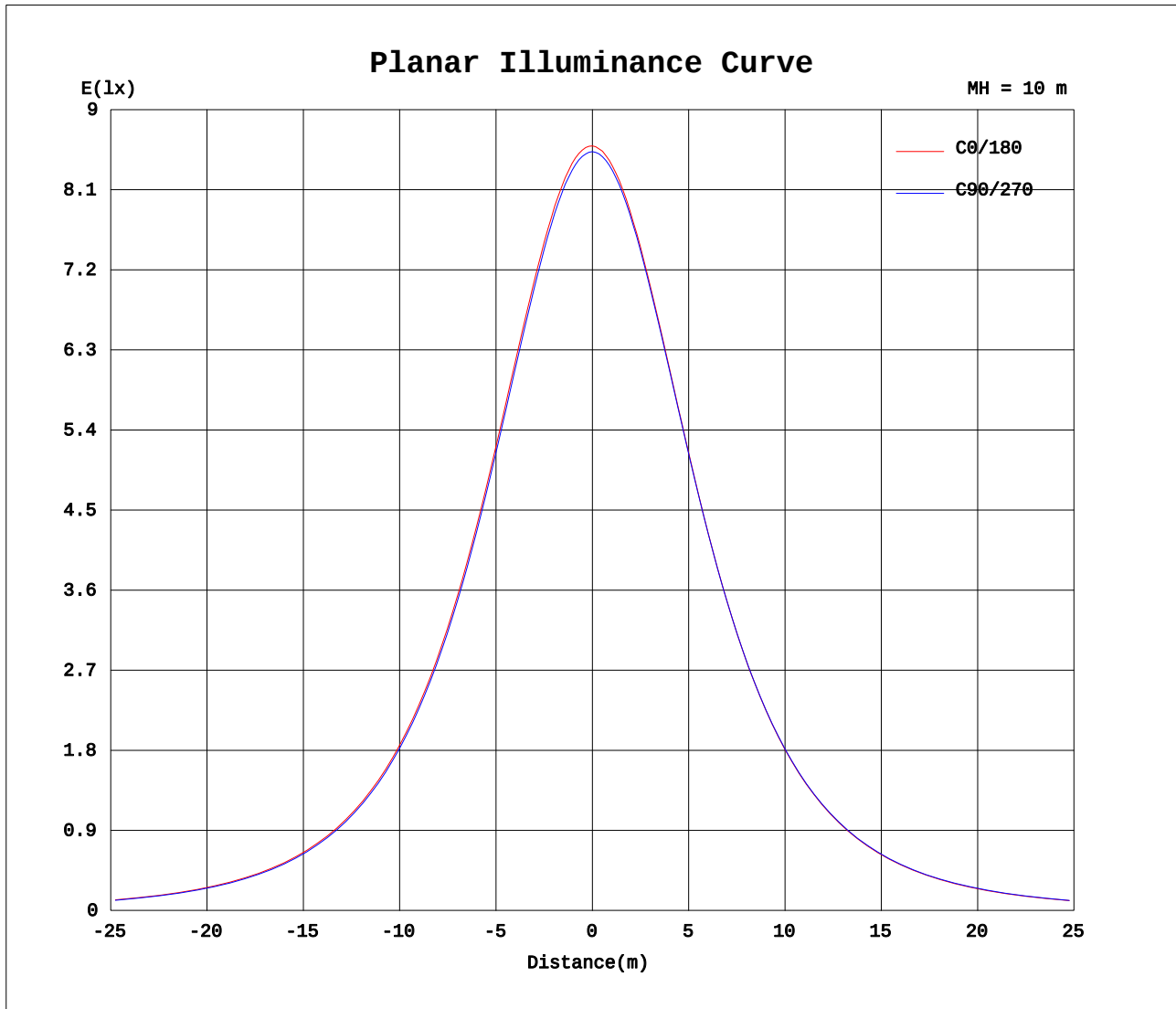
AvgL	cd/m2
L_0~180(65)av	43257
L_0~180(75)av	35858
L_0~180(85)av	19434
L_90~270(65)av	42897
L_90~270(75)av	35650
L_90~270(85)av	20940
L_45(65)av	42896
L_45(75)av	35633
L_45(85)av	20483

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:
 Test Date:2025-04-22

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
 Humidity:65.0%
 Test Distance:7.880m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2025-04-22

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity: 65.0%
Test Distance: 7.880m [K=1.0000]
Remarks:

```

Range: 0 - 90DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.880m [K=1.0000]
Remarks:

```