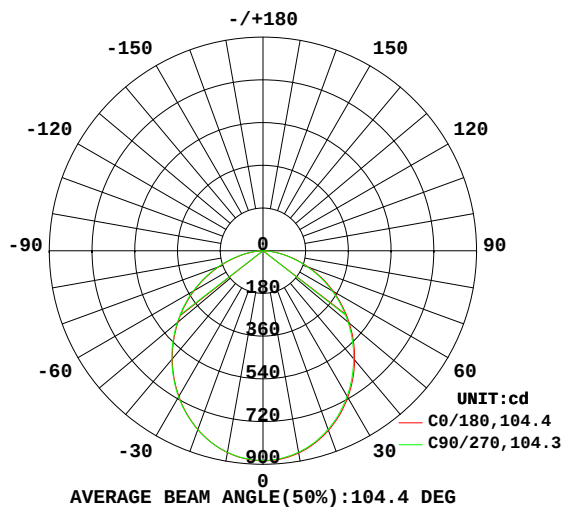


LUMINAIRE PHOTOMETRIC TEST REPORT

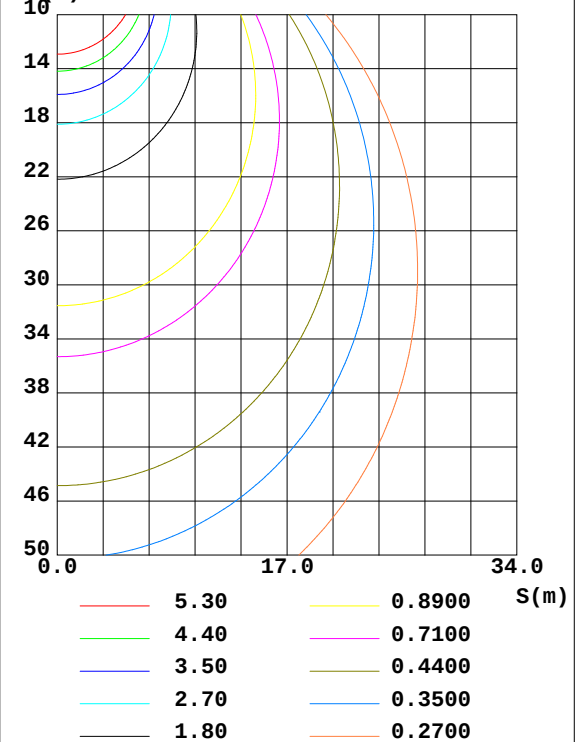
Test:U:230.33V I:0.0958A P:21.116W PF:0.9570 Freq:49.99Hz Lamp Flux:2297.96x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 108.83 lm/W			
MODEL	2835 120 5700K	I _{max} (cd)	885.3	S/MH(C0/180)	1.20
NOMINAL POWER(W)	20	LOR(%)	100.0	S/MH(C90/270)	1.20
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	2298.0	η UP, DN(C0-180)	0.0, 49.9
NOMINAL FLUX(lm)	2297.96	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.1
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:

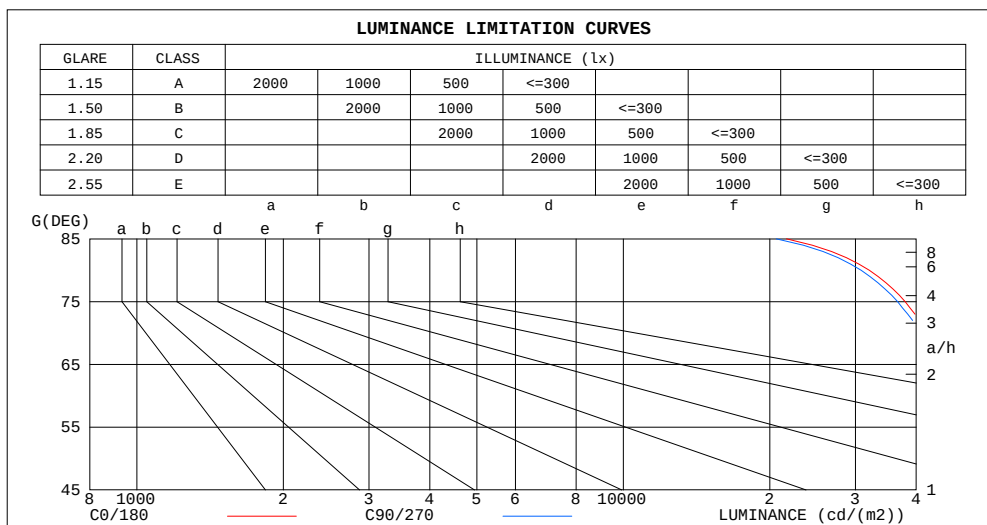
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	865.4	863.8	862.0	860.4	863.3	862.5	862.6	863.2	0- 10	83.35	83.35	3.63, 3.63
20	805.7	803.7	801.2	798.9	801.9	801.3	802.8	804.5	10- 20	235.9	319.3	13.9, 13.9
30	714.3	711.9	709.0	706.0	709.0	708.8	711.0	713.6	20- 30	349.8	669.1	29.1, 29.1
40	600.8	598.0	594.6	591.6	594.6	594.7	597.8	600.8	30- 40	409.8	1079	47, 47
50	474.8	472.0	468.6	465.1	467.9	468.2	471.8	475.3	40- 50	412.3	1491	64.9, 64.9
60	341.9	339.3	335.5	332.1	334.5	335.4	339.0	342.6	50- 60	361.5	1853	80.6, 80.6
70	205.9	204.0	200.2	196.5	198.8	200.4	204.1	207.1	60- 70	266.9	2120	92.2, 92.2
80	79.58	80.03	76.54	72.75	73.08	76.59	79.47	81.32	70- 80	145.5	2265	98.6, 98.6
90	1.047	1.043	1.038	1.038	1.130	1.130	1.135	1.148	80- 90	32.87	2298	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:230.33V I:0.0958A P:21.116W PF:0.9570 Freq:49.99Hz Lamp Flux:2297.96x1 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	21652	20615
80	32026	30801
75	37962	36614
70	42079	40895
65	45287	44231
60	47782	46888
55	49814	49047
50	51623	50939
45	53248	52650

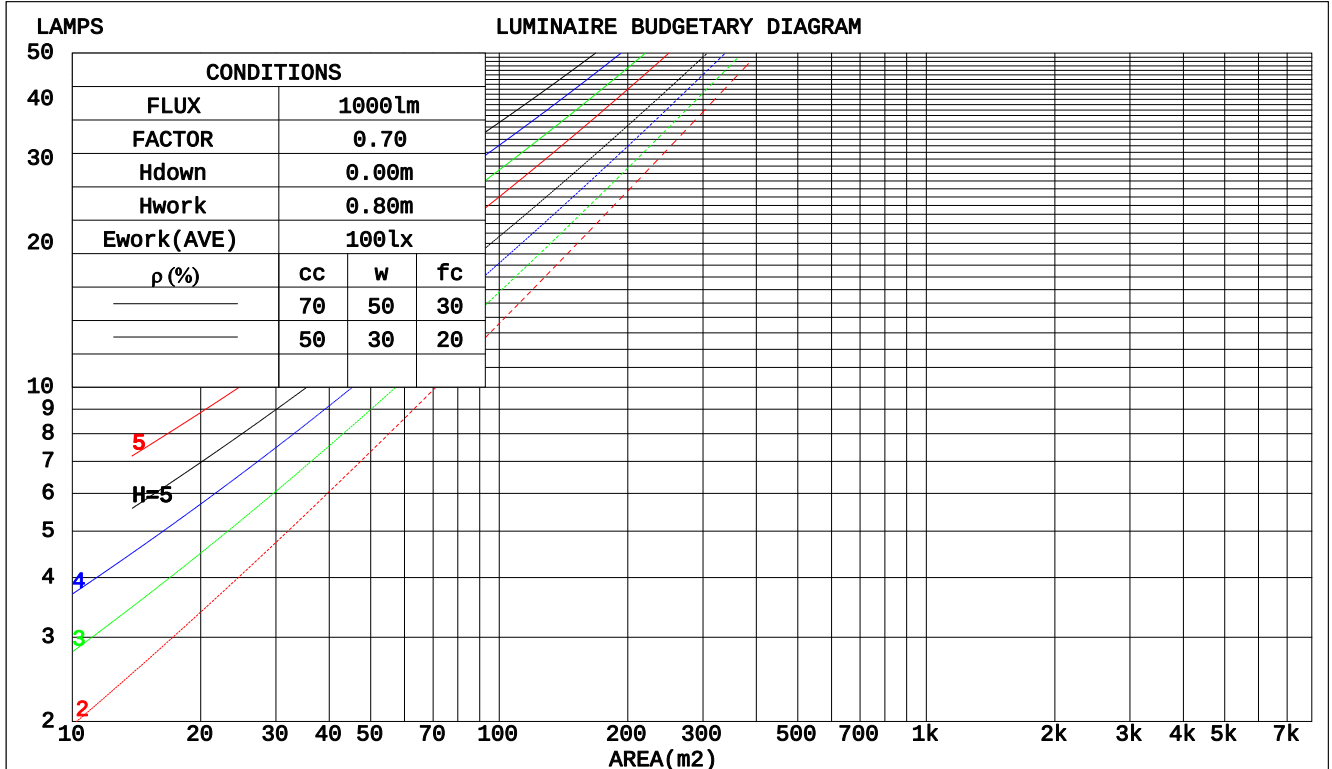
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2025-04-22

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:230.33V I:0.0958A P:21.116W PF:0.9570 Freq:49.99Hz Lamp Flux:2297.96x1 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)															
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	.54	.48	.61	.53	.48	.59	.52	.47	.57	.51	.47	.45
6.0	.58	.49	.42	.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	.27	.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:230.33V I:0.0958A P:21.116W PF:0.9570 Freq:49.99Hz Lamp Flux:2297.96x1 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	.160	.051	.266	.153	.049	.255	.148	.048		
2.0	.283	.155	.048	.277	.152	.047	.265	.147	.046	.254	.143	.045	.245	.138	.044		
3.0	.263	.140	.042	.258	.138	.042	.247	.134	.041	.238	.130	.040	.229	.127	.039		
4.0	.244	.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	.162	.077	.021	.159	.077	.021	.154	.076	.021	.150	.075	.021	.146	.073	.021		

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						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:230.33V I:0.0958A P:21.116W PF:0.9570 Freq:49.99Hz Lamp Flux:2297.96x1 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	23.5	25.0	23.8	25.2	25.4	23.4	24.9	23.7	25.1	25.3	
	3H	24.9	26.3	25.2	26.5	26.8	24.8	26.2	25.1	26.4	26.7
	4H	25.5	26.8	25.8	27.0	27.3	25.4	26.7	25.7	26.9	27.2
	6H	25.8	27.1	26.2	27.3	27.6	25.7	26.9	26.0	27.2	27.5
	8H	25.9	27.1	26.3	27.4	27.7	25.8	27.0	26.1	27.2	27.5
	12H	25.9	27.1	26.3	27.4	27.7	25.8	26.9	26.2	27.2	27.5
4H	2H	24.1	25.4	24.4	25.6	25.9	24.0	25.3	24.3	25.6	25.8
	3H	25.7	26.8	26.0	27.1	27.4	25.6	26.7	25.9	27.0	27.3
	4H	26.3	27.4	26.7	27.7	28.0	26.2	27.3	26.6	27.6	27.9
	6H	26.8	27.7	27.2	28.1	28.5	26.7	27.6	27.1	28.0	28.3
	8H	27.0	27.8	27.4	28.2	28.6	26.8	27.7	27.2	28.1	28.4
	12H	27.0	27.8	27.4	28.2	28.6	26.9	27.7	27.3	28.1	28.5
8H	4H	26.6	27.4	27.0	27.8	28.2	26.5	27.3	26.9	27.7	28.1
	6H	27.2	27.9	27.6	28.3	28.7	27.1	27.8	27.5	28.2	28.6
	8H	27.4	28.0	27.8	28.4	28.9	27.3	27.9	27.7	28.3	28.8
	12H	27.5	28.0	28.0	28.5	29.0	27.4	27.9	27.9	28.4	28.8
12H	4H	26.6	27.4	27.0	27.7	28.2	26.5	27.3	26.9	27.7	28.1
	6H	27.2	27.8	27.7	28.3	28.7	27.1	27.7	27.6	28.2	28.6
	8H	27.5	28.0	27.9	28.4	28.9	27.3	27.9	27.8	28.3	28.8
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 / - 0.3					+ 0.2 / - 0.3					

CIE Pub.117, 2298 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.9)
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:230.33V I:0.0958A P:21.116W PF:0.9570 Freq:49.99Hz Lamp Flux:2297.96x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:

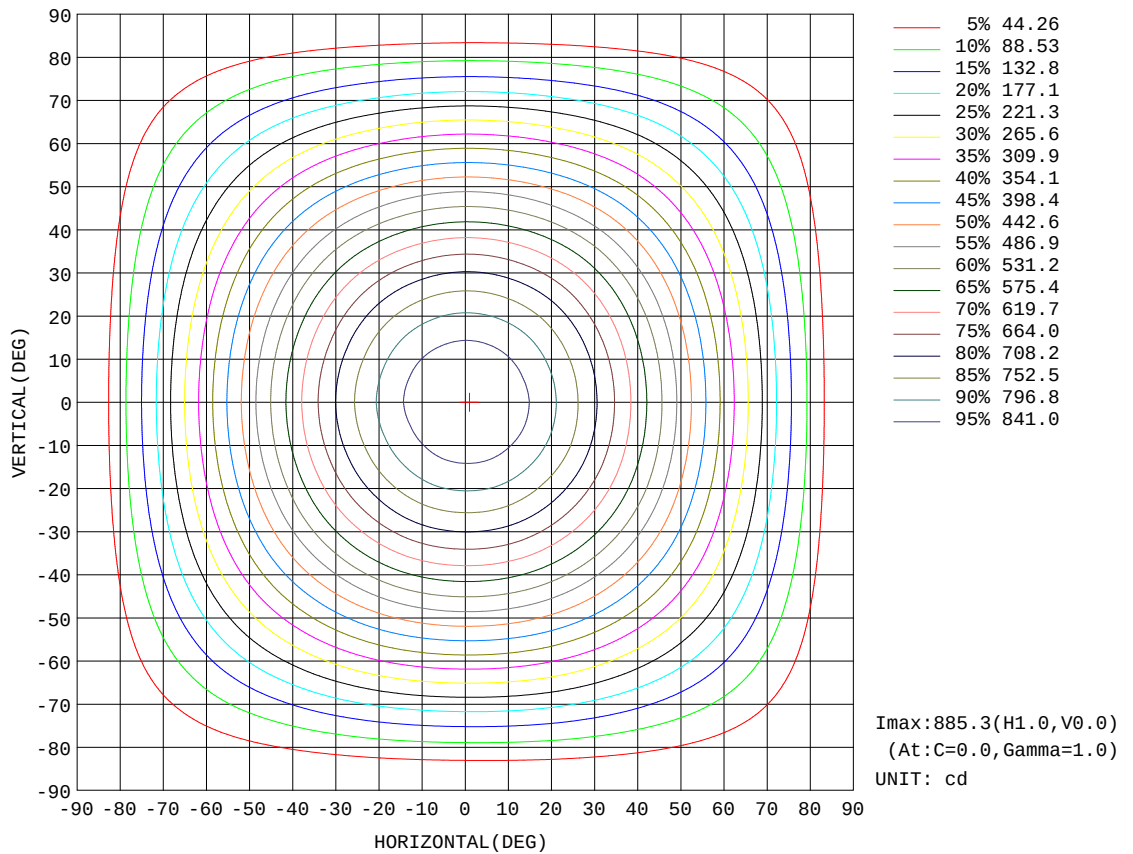
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	59	47	41	58	47	41	57	47	40	34
0.80	69	58	50	68	57	50	66	56	50	43
1.00	77	66	59	76	66	59	74	67	58	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	104	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:230.33V I:0.0958A P:21.116W PF:0.9570 Freq:49.99Hz Lamp Flux:2297.96x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:

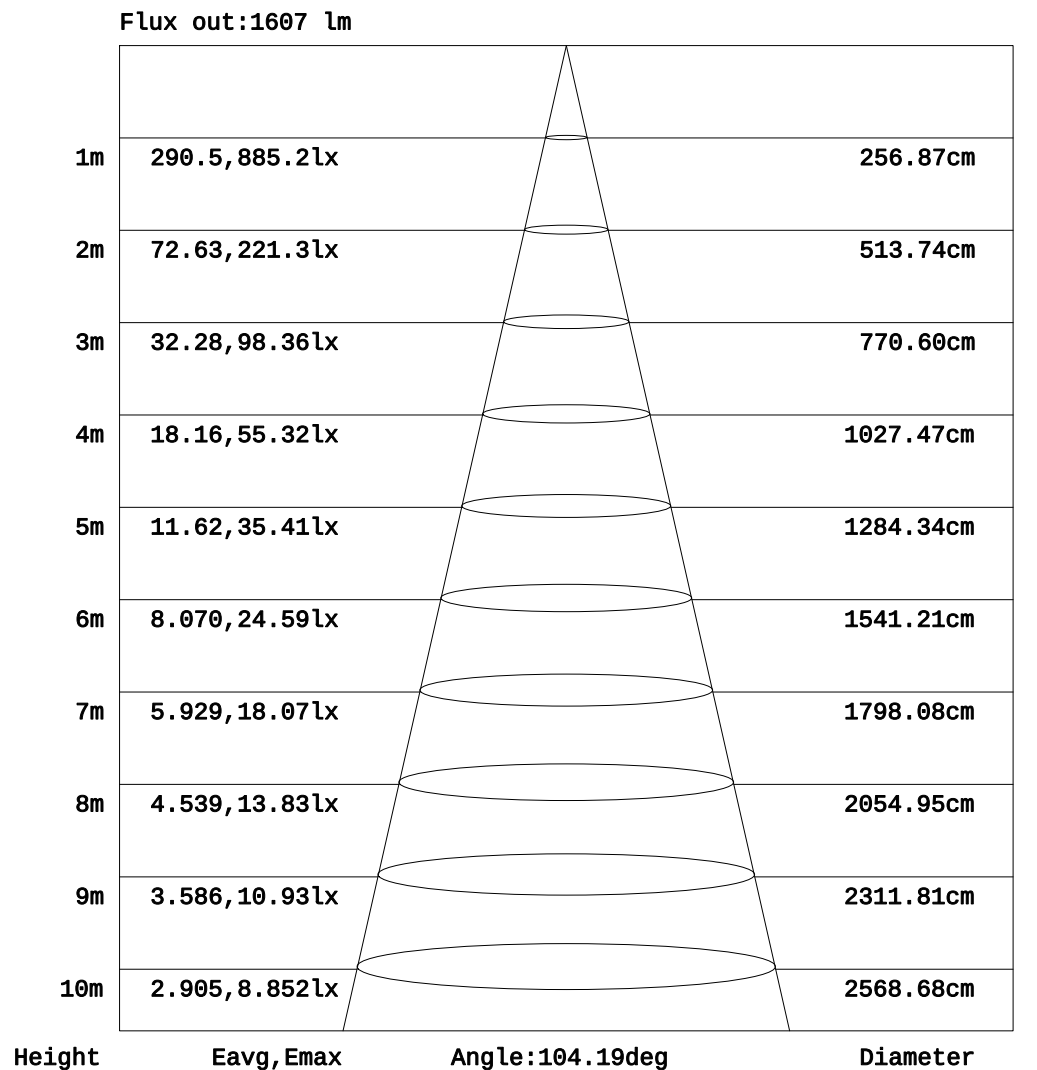


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2025-04-22

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:230.33V I:0.0958A P:21.116W PF:0.9570 Freq:49.99Hz Lamp Flux:2297.96x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:



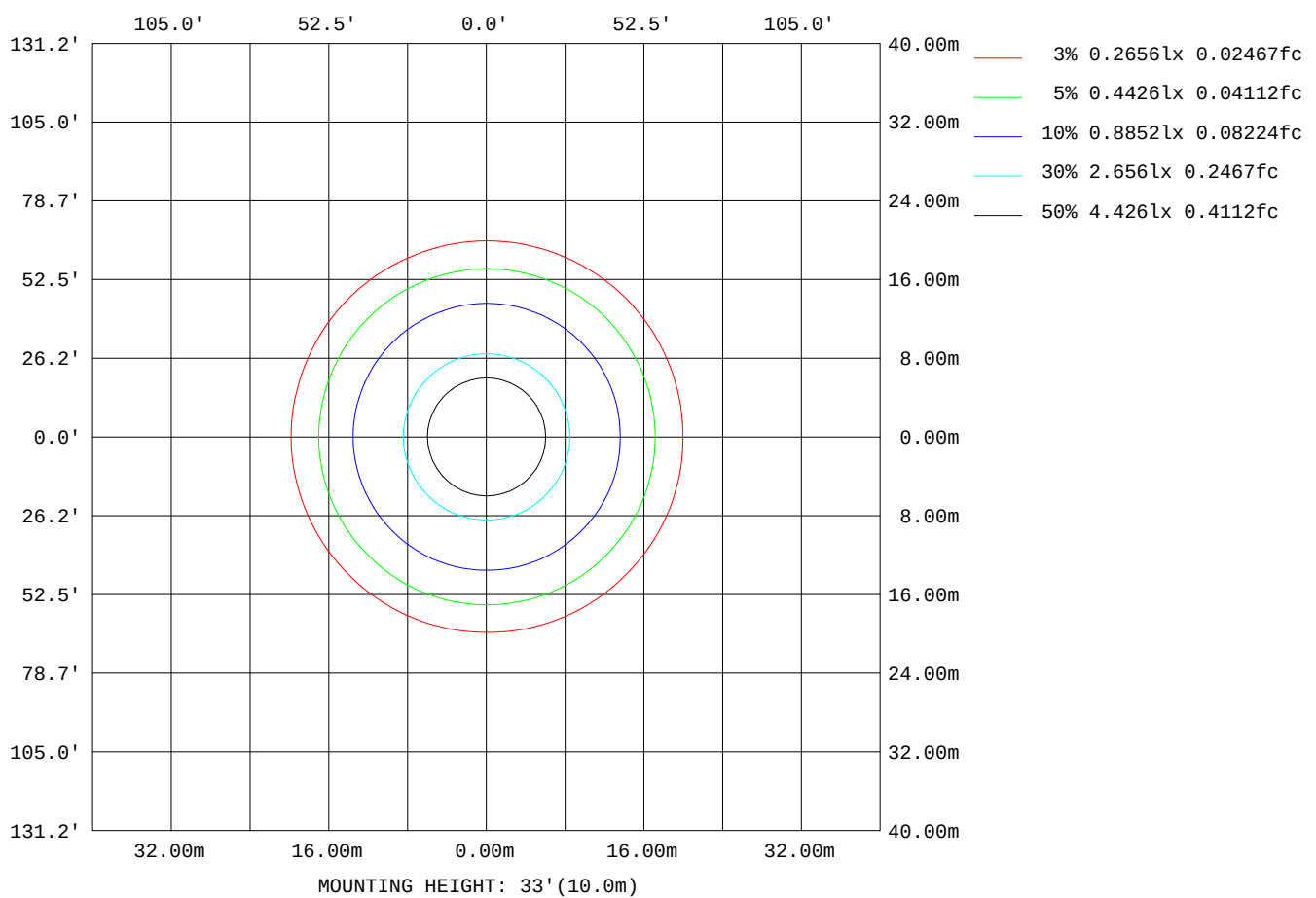
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:230.33V I:0.0958A P:21.116W PF:0.9570 Freq:49.99Hz Lamp Flux:2297.96x1 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:230.33V I:0.0958A P:21.116W PF:0.9570 Freq:49.99Hz Lamp Flux:2297.96x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:

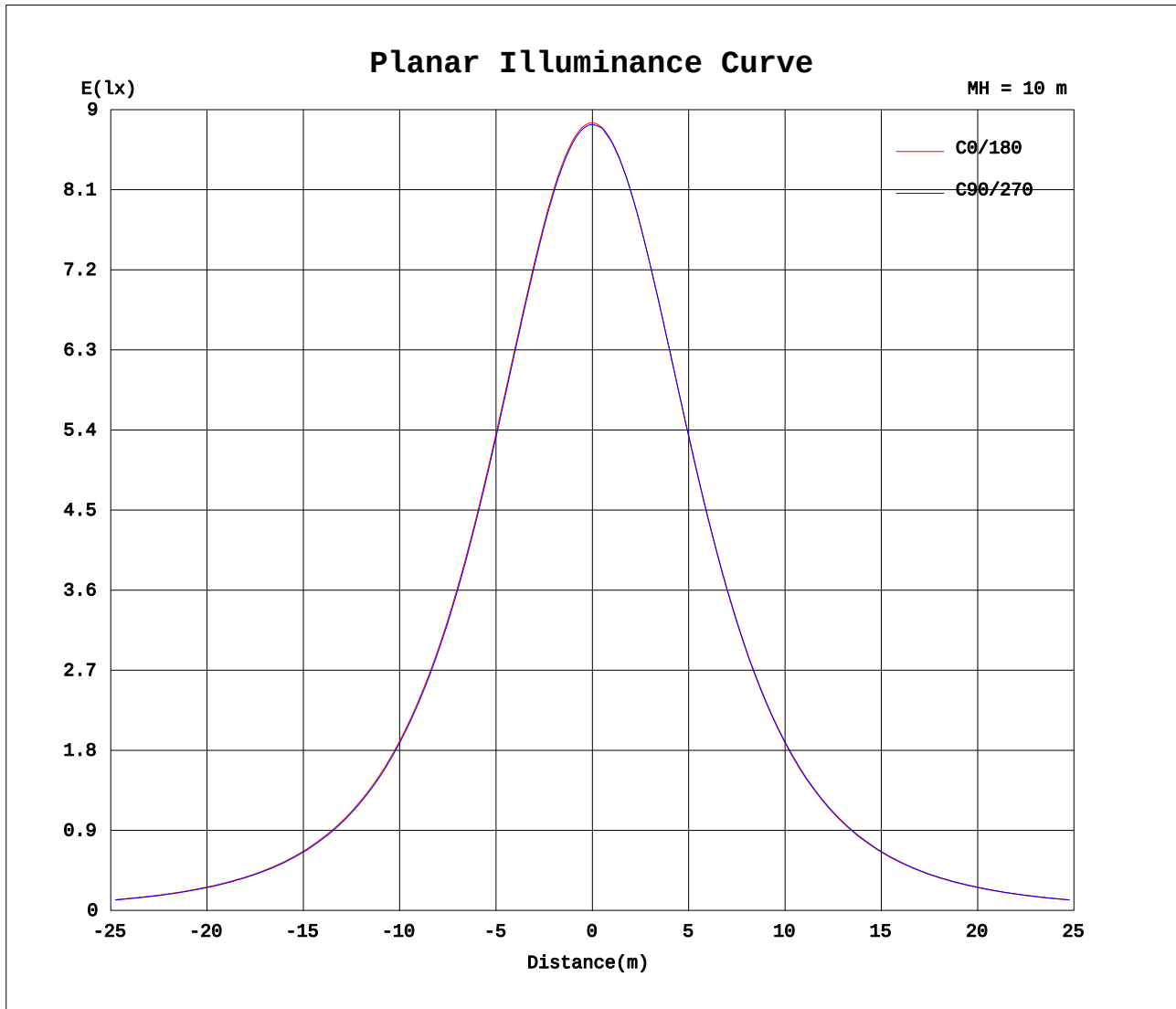
AvgL	cd/m2
L_0~180(65)av	44674
L_0~180(75)av	36991
L_0~180(85)av	19671
L_90~270(65)av	44591
L_90~270(75)av	37077
L_90~270(85)av	21772
L_45(65)av	44577
L_45(75)av	37029
L_45(85)av	21238

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:

```