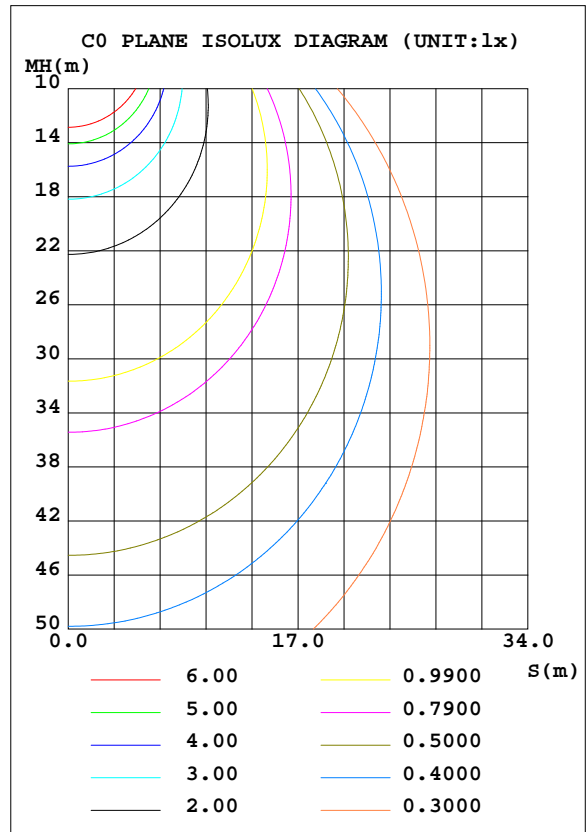
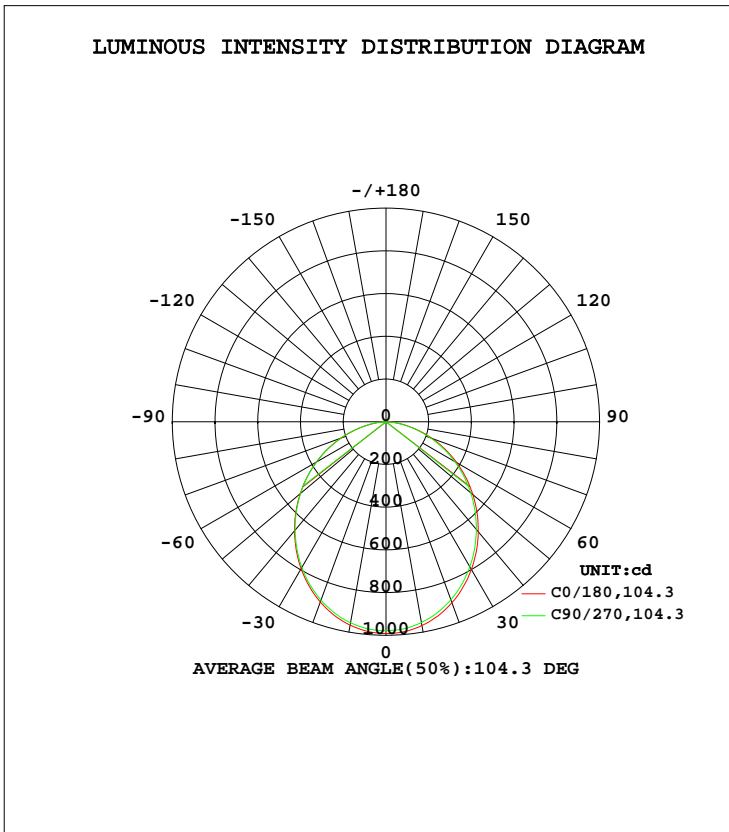


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.31V I:0.0931A P:20.491W PF:0.9557 Freq:49.99Hz Lamp Flux:2549.97x1 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: 124.44 lm/W			
MODEL	2835 120 4000K	I <sub>max</sub> (cd)	991.7	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)	2550.0	η UP, DN(C0-180)	0.0,49.9
NOMINAL FLUX(lm)	2549.97	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



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 GO-2000B\_V1 SYSTEM V2.00.428  
 Humidity:65.0%  
 Test Distance:7.880m [K=1.0000]  
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

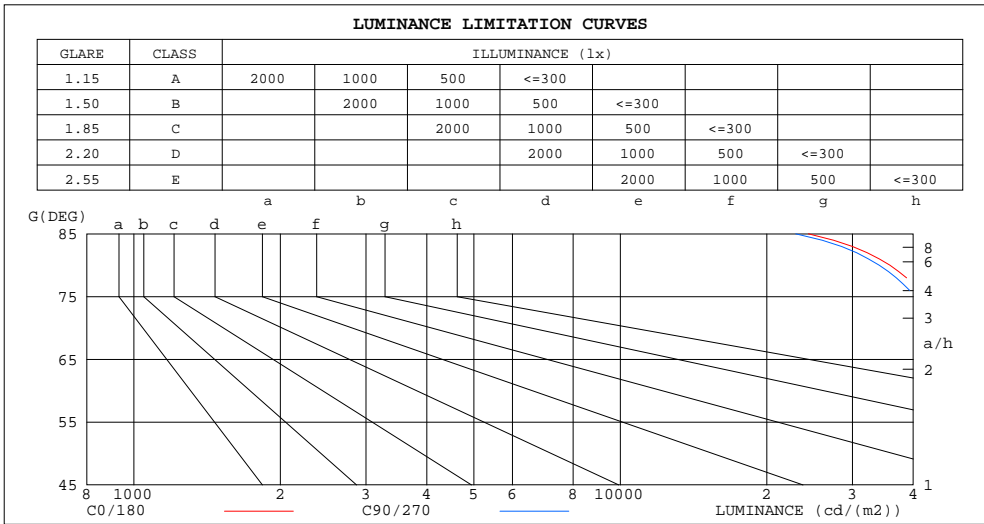
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum, lamp
10	968.8	960.4	954.8	950.7	967.2	959.3	955.9	954.0	0- 10	92.54	92.54	3.63,3.63
20	902.0	894.1	887.4	882.5	898.6	891.4	889.0	888.8	10- 20	261.9	354.5	13.9,13.9
30	799.2	791.4	784.8	779.8	794.5	788.8	787.7	788.4	20- 30	388.2	742.7	29.1,29.1
40	672.2	664.3	658.2	653.2	666.3	661.6	662.2	663.6	30- 40	454.8	1197	47,47
50	531.1	524.5	518.3	513.6	524.5	521.1	522.7	524.8	40- 50	457.4	1655	64.9,64.9
60	382.3	376.9	371.2	366.5	375.2	373.3	375.8	378.4	50- 60	401.1	2056	80.6,80.6
70	230.4	226.9	221.7	216.8	223.1	223.1	226.1	228.7	60- 70	296.1	2352	92.2,92.2
80	89.00	88.84	84.63	80.28	82.18	85.32	88.11	89.76	70- 80	161.4	2513	98.6,98.6
90	1.181	1.167	1.158	1.158	1.291	1.277	1.263	1.277	80- 90	36.50	2550	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

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.428  
 Humidity:65.0%  
 Test Distance:7.880m [K=1.0000]  
 Remarks:

**LUMINANCE LIMITATION CURVES**

Test:U:230.31V I:0.0931A P:20.491W PF:0.9557 Freq:49.99Hz Lamp Flux:2549.97x1 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	24366	22937
80	35818	34056
75	42386	40456
70	47072	45305
65	50650	48965
60	53438	51874
55	55736	54221
50	57744	56349
45	59577	58244

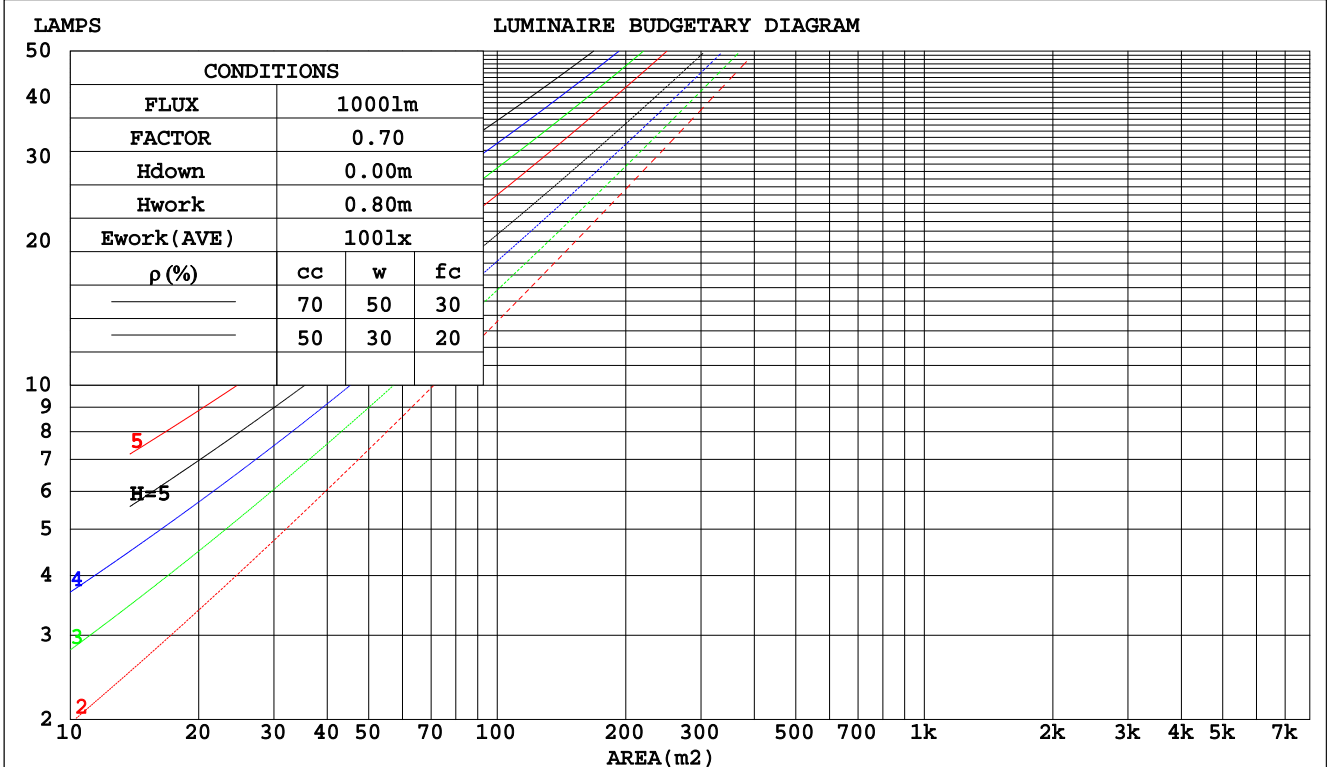
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25DEG  
 Operators:  
 Test Date: 2025-04-22

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-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:230.31V I:0.0931A P:20.491W PF:0.9557 Freq:49.99Hz Lamp Flux:2549.97x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																
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	1.04	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 GO-2000B\_V1 SYSTEM V2.00.428  
 Humidity: 65.0%  
 Test Distance: 7.880m [K=1.0000]  
 Remarks:

WEC AND CCEC

Test:U:230.31V I:0.0931A P:20.491W PF:0.9557 Freq:49.99Hz Lamp Flux:2549.97x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:

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	.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	

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 GO-2000B\_V1 SYSTEM V2.00.428  
 Humidity:65.0%  
 Test Distance:7.880m [K=1.0000]  
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.31V I:0.0931A P:20.491W PF:0.9557 Freq:49.99Hz Lamp Flux:2549.97x1 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	25.0	26.3	25.3	26.6	26.8	24.8	26.2	25.1	26.4	26.7
4H	25.5	26.8	25.8	27.1	27.3	25.3	26.7	25.7	26.9	27.2
6H	25.9	27.1	26.2	27.4	27.6	25.7	26.9	26.0	27.2	27.5
8H	26.0	27.1	26.3	27.4	27.7	25.8	27.0	26.1	27.2	27.5
12H	26.0	27.1	26.3	27.4	27.7	25.8	26.9	26.1	27.2	27.5
4H 2H	24.1	25.4	24.4	25.7	25.9	24.0	25.3	24.3	25.6	25.8
3H	25.7	26.9	26.1	27.2	27.5	25.6	26.7	25.9	27.0	27.3
4H	26.4	27.4	26.8	27.7	28.1	26.2	27.3	26.6	27.6	27.9
6H	26.9	27.8	27.2	28.1	28.5	26.7	27.6	27.1	28.0	28.3
8H	27.0	27.9	27.4	28.2	28.6	26.8	27.7	27.2	28.0	28.4
12H	27.1	27.8	27.5	28.2	28.6	26.9	27.7	27.3	28.1	28.5
8H 4H	26.6	27.5	27.0	27.8	28.2	26.5	27.3	26.9	27.7	28.1
6H	27.2	27.9	27.7	28.3	28.8	27.1	27.8	27.5	28.2	28.6
8H	27.4	28.0	27.9	28.5	28.9	27.3	27.9	27.7	28.3	28.8
12H	27.5	28.1	28.0	28.5	29.0	27.4	27.9	27.9	28.4	28.8
12H 4H	26.6	27.4	27.0	27.8	28.2	26.5	27.3	26.9	27.7	28.1
6H	27.3	27.9	27.7	28.3	28.8	27.1	27.7	27.6	28.2	28.6
8H	27.5	28.0	28.0	28.5	29.0	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 / - 0.2					+ 0.2 / - 0.3				

CIE Pub.117, 2550 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 3.3)  
 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 GO-2000B\_V1 SYSTEM V2.00.428  
 Humidity:65.0%  
 Test Distance:7.880m [K=1.0000]  
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.31V I:0.0931A P:20.491W PF:0.9557 Freq:49.99Hz Lamp Flux:2549.97x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:

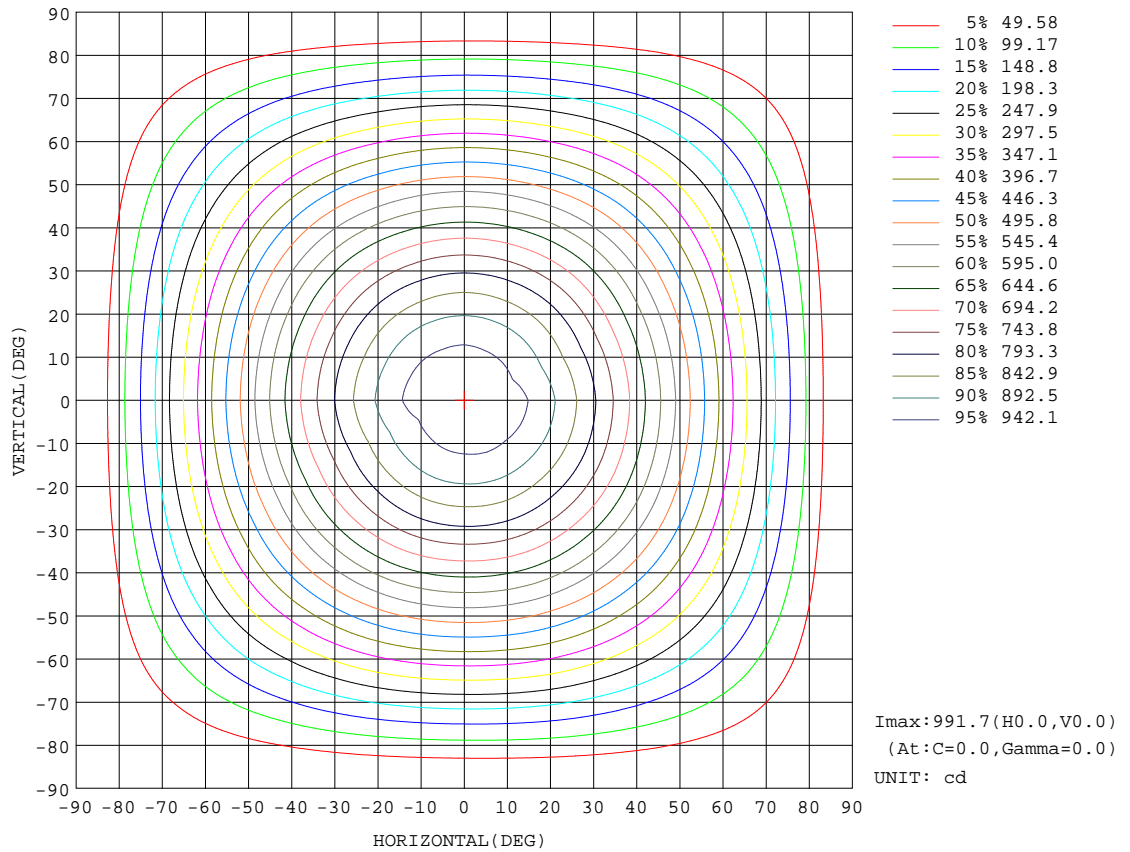
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	59	47	41	58	47	41	57	47	40	34
0.80	69	58	50	68	57	50	66	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

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.428  
 Humidity:65.0%  
 Test Distance:7.880m [K=1.0000]  
 Remarks:

**ISOCANDELA DIAGRAM**

Test:U:230.31V I:0.0931A P:20.491W PF:0.9557 Freq:49.99Hz Lamp Flux:2549.97x1 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

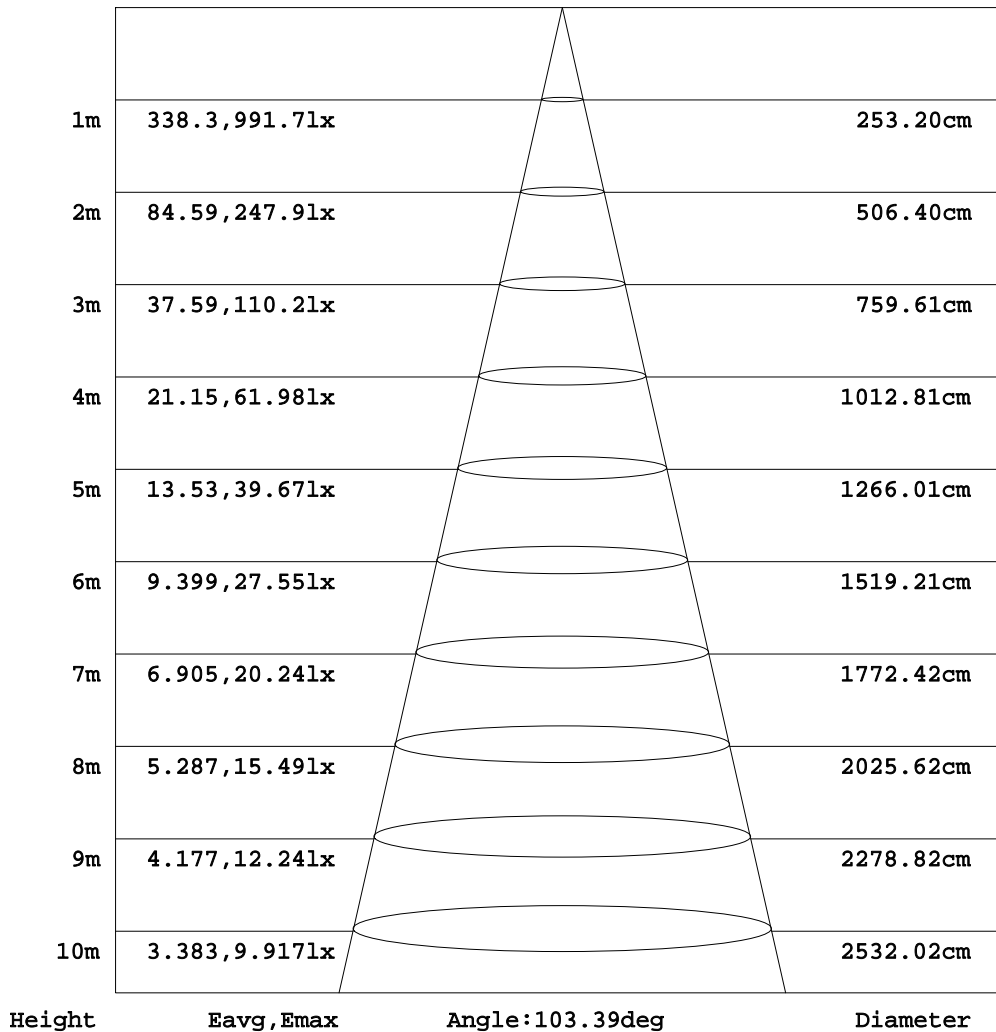
γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.428  
 Humidity: 65.0%  
 Test Distance: 7.880m [K=1.0000]  
 Remarks:



**AAI Figure**

Test:U:230.31V I:0.0931A P:20.491W PF:0.9557 Freq:49.99Hz Lamp Flux:2549.97x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:

Flux out:1741 lm



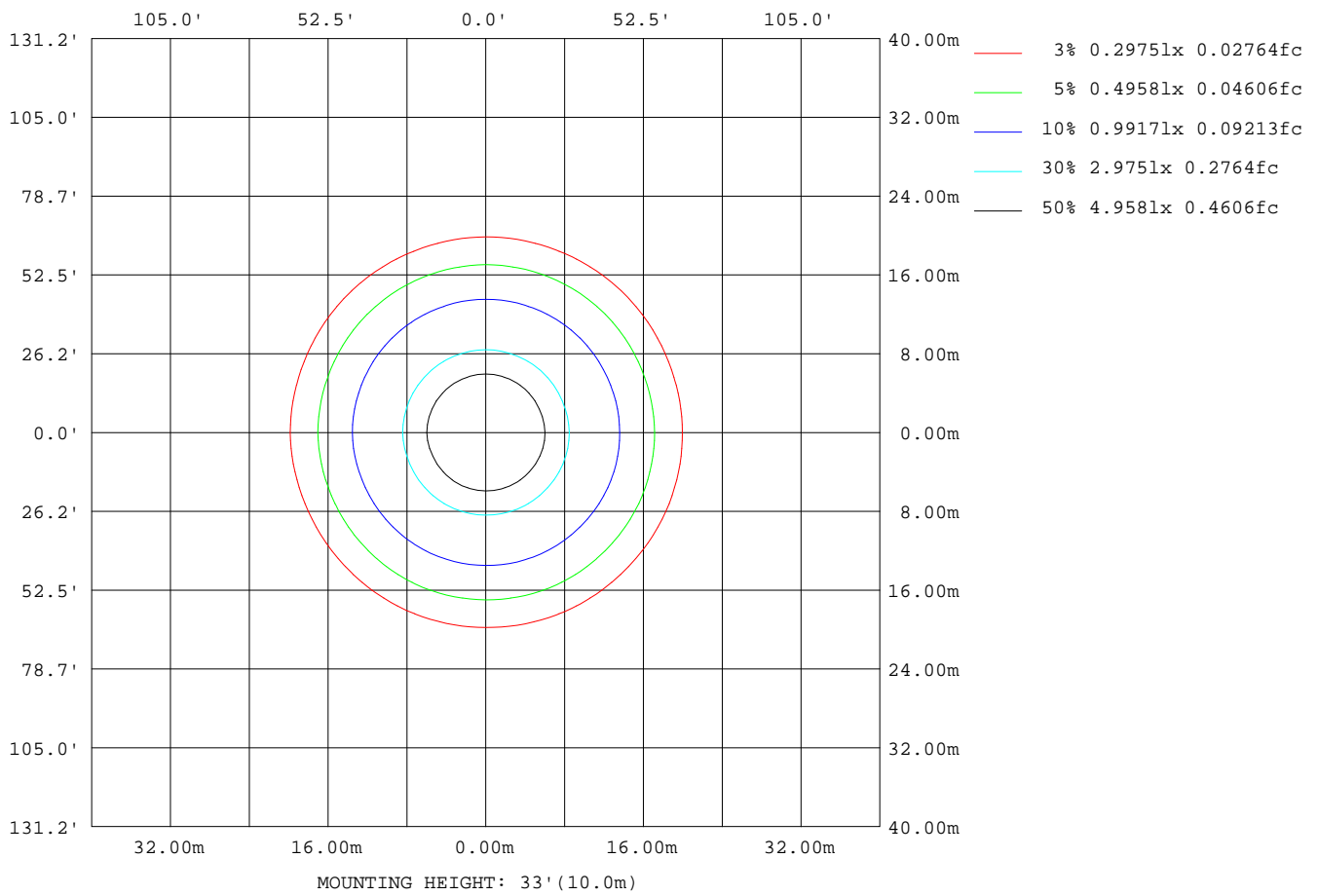
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.428  
 Humidity: 65.0%  
 Test Distance: 7.880m [K=1.0000]  
 Remarks:

**ISOLUX DIAGRAM**

Test:U:230.31V I:0.0931A P:20.491W PF:0.9557 Freq:49.99Hz Lamp Flux:2549.97x1 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 GO-2000B\_V1 SYSTEM V2.00.428  
 Humidity: 65.0%  
 Test Distance: 7.880m [K=1.0000]  
 Remarks:

LED Avg.L Report

Test:U:230.31V I:0.0931A P:20.491W PF:0.9557 Freq:49.99Hz Lamp Flux:2549.97x1 lm		
NAME: DL2009-WHTC20S01	TYPE:	WEIGHT:
SPEC.: white RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 135mm	Shielding Angle:

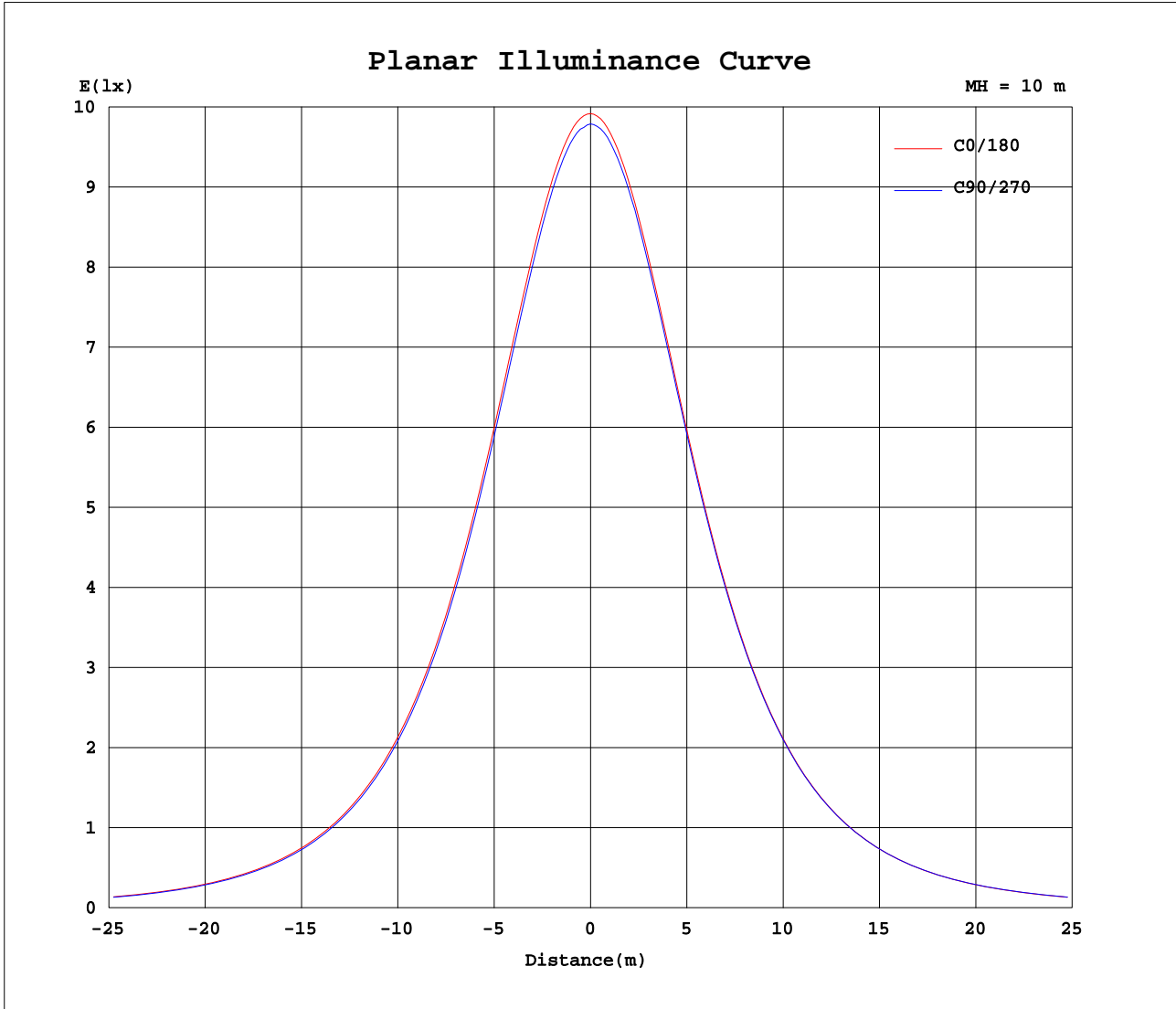
AvgL	cd/m2
L_0~180(65)av	50052
L_0~180(75)av	41419
L_0~180(85)av	22213
L_90~270(65)av	49351
L_90~270(75)av	41025
L_90~270(85)av	24190
L_45(65)av	49374
L_45(75)av	41006
L_45(85)av	23602

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 GO-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

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.428  
 Humidity: 65.0%  
 Test Distance: 7.880m [K=1.0000]  
 Remarks:

