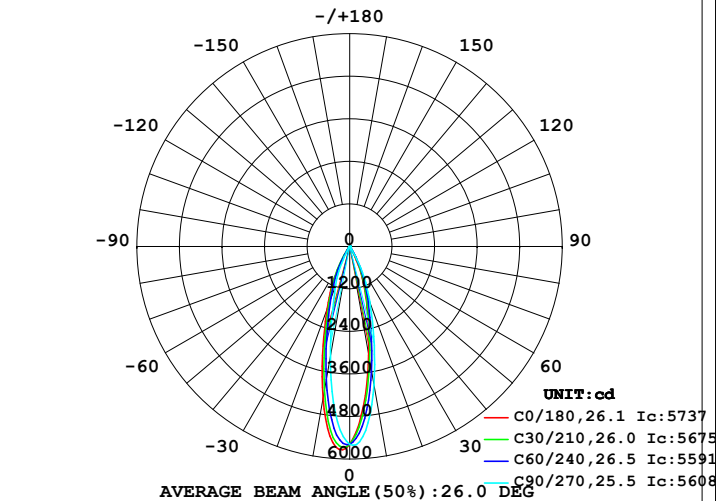


LUMINAIRE PHOTOMETRIC TEST REPORT

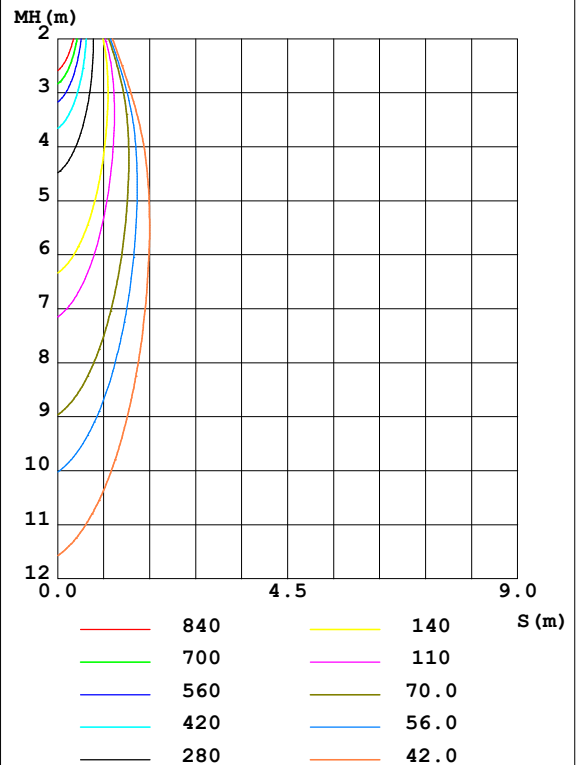
Test:U:48.00V I:0.4793A P:23.01W PF:1.000 Freq:50.00Hz Lamp Flux:1621.12x1 lm		
NAME: M20-T41004A-24G30-R24	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:436*21.6	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 70.46 lm/W			
MODEL	3000K CRI90	I _{max} (cd)	5737	S/MH(C0/180)	0.51
NOMINAL POWER(W)	24	LOR(%)	100.0	S/MH(C90/270)	0.38
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	1621.1	η UP,DN(C0-180)	0.0,51.0
NOMINAL FLUX(lm)	1621.12	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	225.4	η down(%)	100.0	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:ZR
 Test Date:2021-09-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity:65.0%
 Test Distance:8.402m [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	3115	3418	3962	4310	4351	3901	3167	3119	0- 10	434.8	434.8	26.8,26.8
20	1207	1365	1666	1851	1858	1605	1166	1210	10- 20	667.0	1102	68,68
30	149.3	342.9	309.9	640.5	431.2	519.8	182.9	292.0	20- 30	398.8	1501	92.6,92.6
40	19.65	35.55	26.58	66.63	43.91	63.70	35.07	48.03	30- 40	82.41	1583	97.7,97.7
50	4.256	6.672	6.203	7.750	19.29	20.77	17.03	19.27	40- 50	16.60	1600	98.7,98.7
60	1.526	2.053	2.775	2.039	11.32	11.54	10.26	10.46	50- 60	7.807	1607	99.2,99.2
70	1.896	1.841	3.045	1.744	8.038	7.788	7.479	7.126	60- 70	5.256	1613	99.5,99.5
80	2.173	2.166	3.363	2.110	5.855	5.690	5.522	5.239	70- 80	4.504	1617	99.8,99.8
90	2.492	2.470	3.640	2.359	4.373	4.231	4.165	3.944	80- 90	3.882	1621	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): 1593.3 lm

%lum = 98.3%

%lamp = 98.3%

Conical surface Flux(120deg): 1607.5 lm

%lum = 99.2%

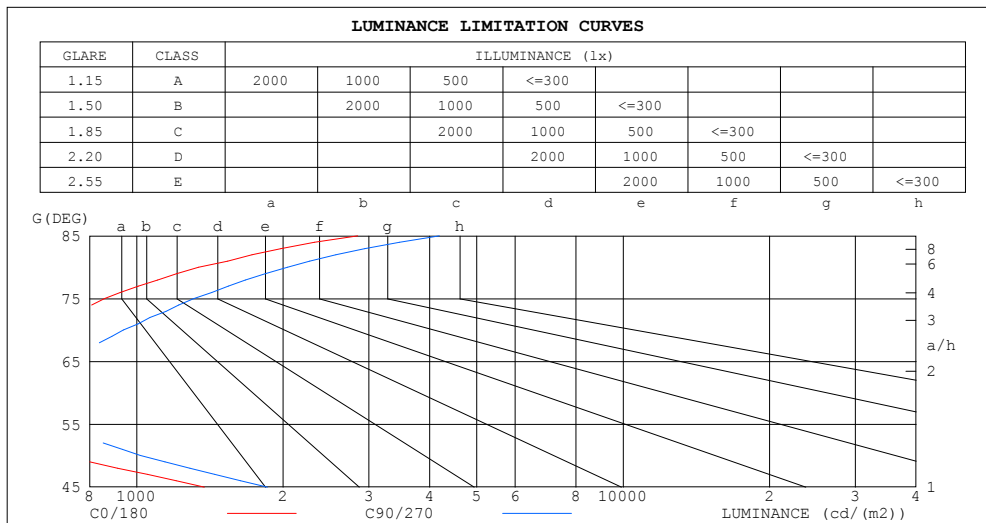
%lamp = 99.2%

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:ZR
 Test Date:2021-09-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity:65.0%
 Test Distance:8.402m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:48.00V I:0.4793A P:23.01W PF:1.000 Freq:50.00Hz Lamp Flux:1621.12x1 lm		
NAME: M20-T41004A-24G30-R24	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:436*21.6	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2844	4186
80	1341	2043
75	858	1310
70	594	939
65	437	716
60	327	585
55	414	692
50	709	1018
45	1377	1856

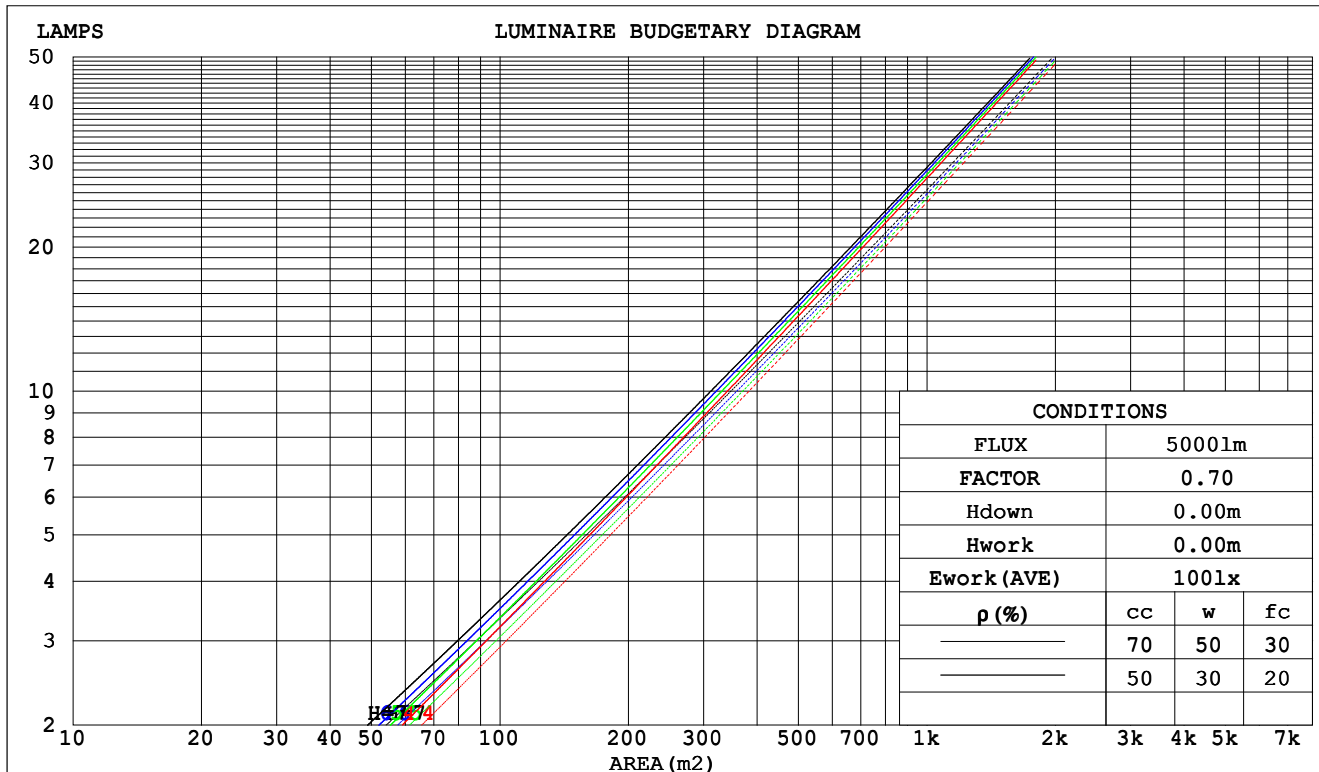
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-09-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:48.00V I:0.4793A P:23.01W PF:1.000 Freq:50.00Hz Lamp Flux:1621.12x1 lm		
NAME: M20-T41004A-24G30-R24	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:436*21.6	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						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	1.12	1.10	1.08	1.10	1.08	1.06	1.06	1.05	1.03	1.02	1.01	1.00	.99	.98	.97	.96
2.0	1.06	1.03	1.00	1.05	1.02	.99	1.01	.99	.97	.99	.97	.95	.96	.94	.93	.91
3.0	1.01	.97	.94	.90	.96	.93	.97	.94	.92	.95	.92	.90	.93	.91	.89	.88
4.0	.96	.92	.89	.95	.91	.88	.93	.90	.87	.92	.89	.86	.90	.87	.85	.84
5.0	.92	.88	.84	.91	.87	.84	.90	.86	.83	.88	.85	.83	.87	.84	.82	.81
6.0	.89	.84	.81	.88	.84	.80	.86	.83	.80	.85	.82	.79	.84	.81	.79	.78
7.0	.85	.81	.77	.85	.80	.77	.83	.80	.77	.82	.79	.76	.81	.78	.76	.75
8.0	.82	.77	.74	.81	.77	.74	.81	.77	.74	.80	.76	.74	.79	.76	.73	.72
9.0	.79	.75	.71	.79	.74	.71	.78	.74	.71	.77	.73	.71	.76	.73	.71	.70
10.0	.76	.72	.69	.76	.72	.69	.75	.71	.69	.75	.71	.69	.74	.71	.68	.67



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:ZR
 Test Date:2021-09-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity:65.0%
 Test Distance:8.402m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:48.00V I:0.4793A P:23.01W PF:1.000 Freq:50.00Hz Lamp Flux:1621.12x1 lm					
NAME: M20-T41004A-24G30-R24			TYPE:		WEIGHT:
SPEC.:			DIM.:		SERIAL No.:
MFR.:			SUR.:436*21.6		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	.151	.086	.027	.144	.082	.026	.132	.076	.024	.120	.069	.022	.110	.064	.020	
2.0	.140	.077	.024	.134	.074	.023	.124	.069	.021	.115	.064	.020	.106	.060	.019	
3.0	.131	.070	.021	.126	.068	.020	.118	.064	.019	.110	.060	.018	.102	.057	.017	
4.0	.123	.064	.019	.119	.062	.018	.112	.059	.018	.105	.056	.017	.099	.054	.016	
5.0	.116	.059	.017	.113	.058	.017	.107	.055	.016	.101	.053	.016	.095	.051	.015	
6.0	.110	.055	.016	.107	.054	.016	.102	.052	.015	.097	.050	.015	.092	.048	.014	
7.0	.105	.052	.015	.102	.051	.015	.098	.049	.014	.093	.048	.014	.089	.046	.014	
8.0	.100	.049	.014	.098	.048	.014	.094	.047	.013	.090	.045	.013	.086	.044	.013	
9.0	.096	.046	.013	.094	.046	.013	.090	.045	.013	.087	.043	.012	.083	.042	.012	
10.0	.092	.044	.012	.090	.044	.012	.087	.043	.012	.084	.042	.012	.081	.041	.012	

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	.169	.158	.147	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.152	.133	.116	.130	.114	.101	.089	.079	.070	.051	.046	.041	.017	.015	.013	
3.0	.138	.113	.094	.118	.098	.081	.081	.068	.057	.047	.040	.034	.015	.013	.011	
4.0	.126	.098	.077	.108	.085	.067	.074	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.116	.086	.064	.099	.074	.056	.068	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.107	.076	.054	.092	.066	.047	.064	.046	.033	.037	.027	.020	.012	.009	.007	
7.0	.100	.068	.046	.086	.059	.040	.059	.041	.028	.035	.024	.017	.011	.008	.006	
8.0	.094	.062	.040	.081	.053	.035	.056	.038	.024	.032	.022	.015	.011	.007	.005	
9.0	.088	.056	.034	.076	.049	.030	.053	.034	.021	.031	.020	.013	.010	.007	.004	
10.0	.083	.051	.030	.072	.045	.026	.050	.031	.019	.029	.019	.011	.009	.006	.004	

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-09-03

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:48.00V I:0.4793A P:23.01W PF:1.000 Freq:50.00Hz Lamp Flux:1621.12x1 lm										
NAME: M20-T41004A-24G30-R24					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					SUR.:436*21.6			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	1.9	2.6	2.1	2.7	2.9	4.5	5.2	4.7	5.4	5.5
3H	1.9	2.6	2.2	2.8	3.0	4.5	5.2	4.7	5.3	5.5
4H	2.1	2.8	2.4	3.0	3.2	4.6	5.3	4.9	5.5	5.7
6H	2.7	3.3	3.0	3.5	3.7	5.0	5.7	5.3	5.9	6.1
8H	3.1	3.7	3.4	4.0	4.2	5.5	6.0	5.8	6.3	6.5
12H	3.8	4.4	4.1	4.6	4.9	6.1	6.7	6.4	6.9	7.2
4H 2H	1.7	2.3	1.9	2.5	2.8	4.3	4.9	4.5	5.1	5.3
3H	1.9	2.4	2.2	2.7	3.0	4.3	4.9	4.6	5.1	5.4
4H	2.3	2.8	2.6	3.1	3.4	4.5	5.0	4.9	5.3	5.6
6H	3.1	3.6	3.5	3.9	4.2	5.1	5.6	5.5	5.9	6.3
8H	3.8	4.2	4.2	4.6	4.9	5.7	6.1	6.1	6.5	6.9
12H	4.8	5.2	5.2	5.5	5.9	6.6	7.0	7.1	7.4	7.8
8H 4H	2.4	2.9	2.8	3.2	3.6	4.5	5.0	4.9	5.3	5.7
6H	3.6	3.9	4.0	4.3	4.7	5.3	5.7	5.8	6.1	6.5
8H	4.5	4.8	5.0	5.3	5.7	6.1	6.4	6.5	6.8	7.2
12H	5.8	6.1	6.3	6.5	7.0	7.2	7.5	7.7	7.9	8.4
12H 4H	2.5	2.9	2.9	3.2	3.6	4.6	4.9	5.0	5.3	5.7
6H	3.8	4.1	4.2	4.5	4.9	5.4	5.7	5.9	6.2	6.6
8H	4.8	5.1	5.3	5.6	6.0	6.2	6.5	6.7	7.0	7.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.7 / - 0.8					+ 1.2 / - 0.9				
1.5H	+ 1.5 / - 0.7					+ 2.4 / - 0.9				
2.0H	+ 0.5 / - 0.2					+ 1.0 / - 0.5				

CIE Pub.117, 1621 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.7)

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-09-03

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:48.00V I:0.4793A P:23.01W PF:1.000 Freq:50.00Hz Lamp Flux:1621.12x1 lm		
NAME: M20-T41004A-24G30-R24	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:436*21.6	Shielding Angle:

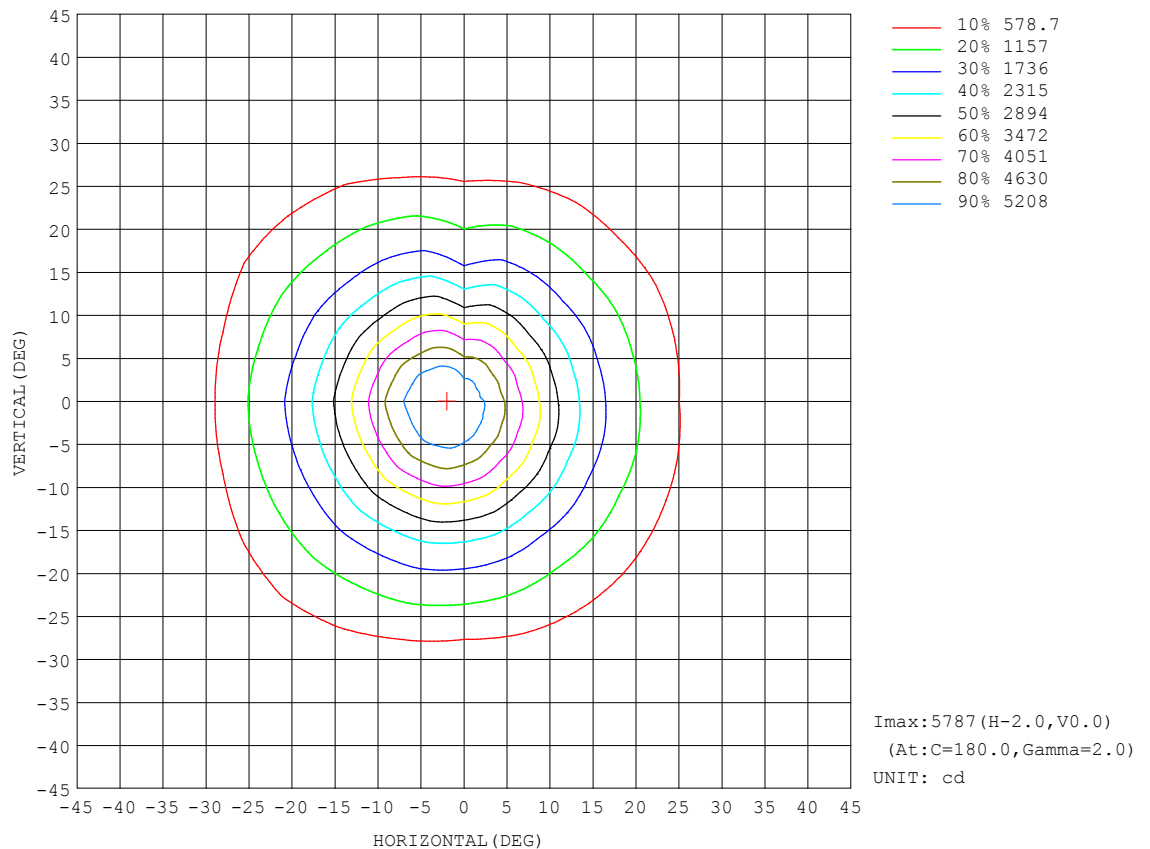
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	81	90	84	81	89	84	81	77
0.80	97	92	88	96	91	88	95	91	88	84
1.00	101	96	93	100	95	92	99	95	92	88
1.25	105	100	97	104	99	96	102	98	95	91
1.50	107	103	100	106	102	99	104	101	98	94
2.00	109	105	102	108	104	102	105	102	100	95
2.50	111	107	105	109	106	104	106	104	102	96
3.00	112	109	107	111	108	105	107	105	103	97
4.00	114	112	110	112	110	108	109	107	105	99
5.00	115	113	112	113	112	110	109	108	107	99
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-09-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:48.00V I:0.4793A P:23.01W PF:1.000 Freq:50.00Hz Lamp Flux:1621.12x1 lm		
NAME: M20-T41004A-24G30-R24	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:436*21.6	Shielding Angle:

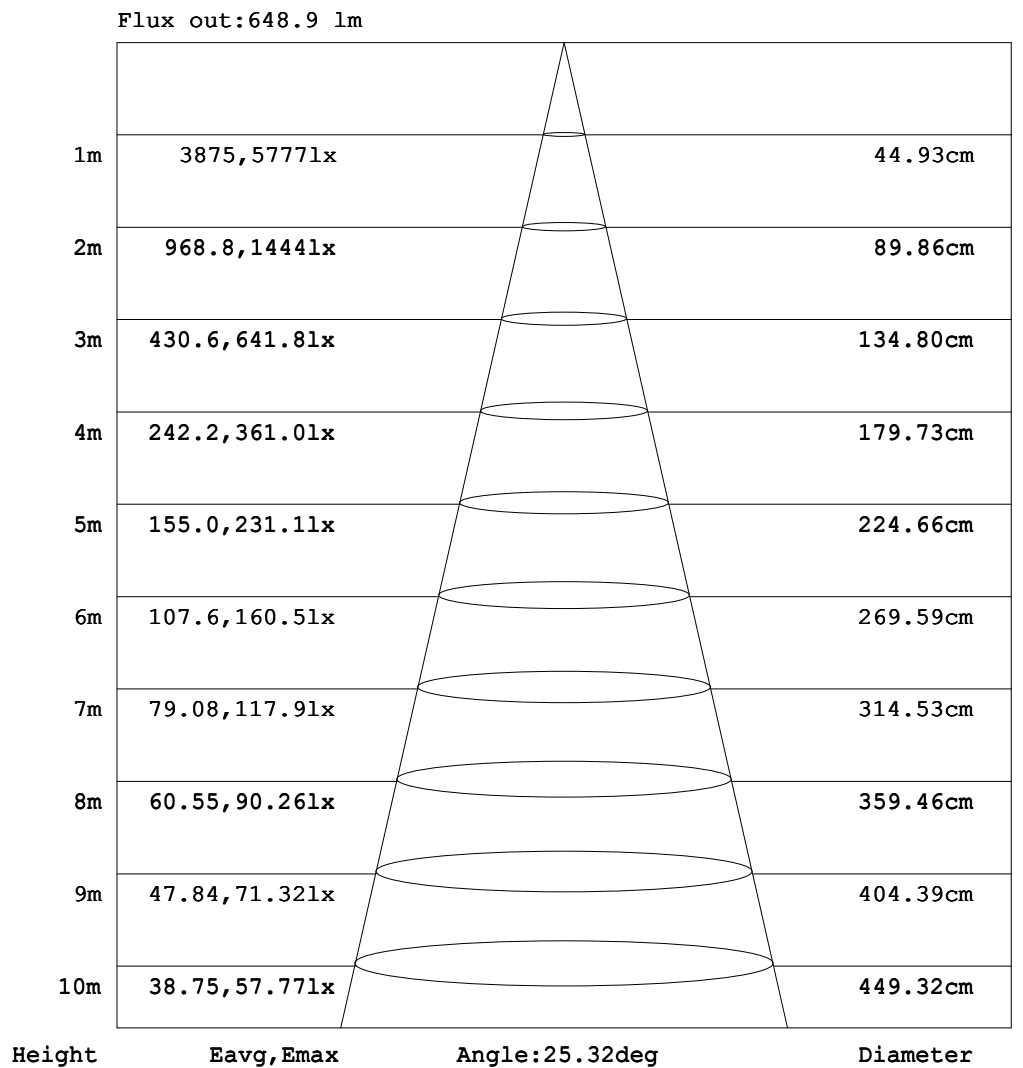


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-09-03

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

AAI Figure

Test:U:48.00V I:0.4793A P:23.01W PF:1.000 Freq:50.00Hz Lamp Flux:1621.12x1 lm		
NAME: M20-T41004A-24G30-R24	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:436*21.6	Shielding Angle:



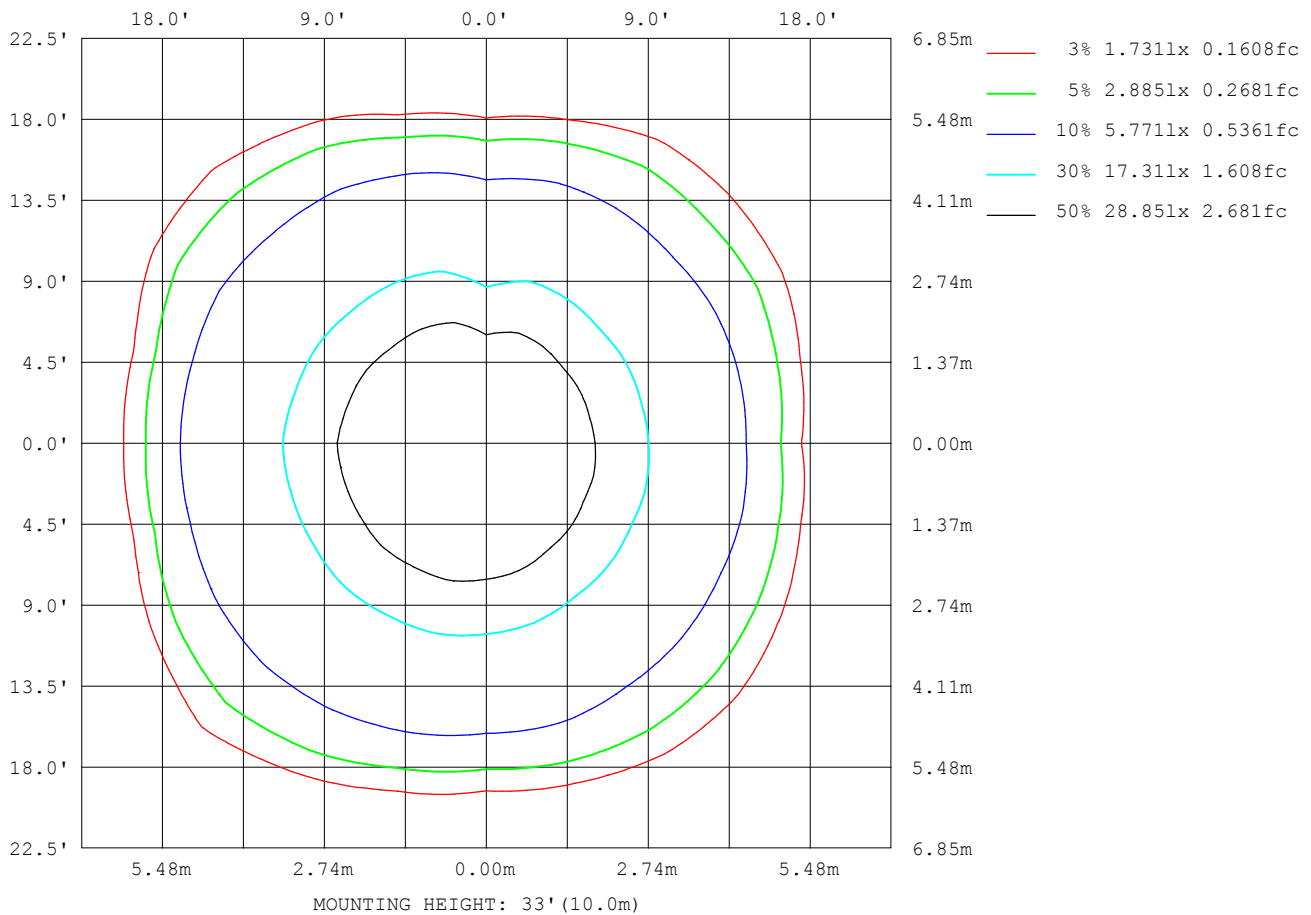
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-09-03

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:48.00V I:0.4793A P:23.01W PF:1.000 Freq:50.00Hz Lamp Flux:1621.12x1 lm		
NAME: M20-T41004A-24G30-R24	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:436*21.6	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-09-03

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:48.00V I:0.4793A P:23.01W PF:1.000 Freq:50.00Hz Lamp Flux:1621.12x1 lm		
NAME: M20-T41004A-24G30-R24	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:436*21.6	Shielding Angle:

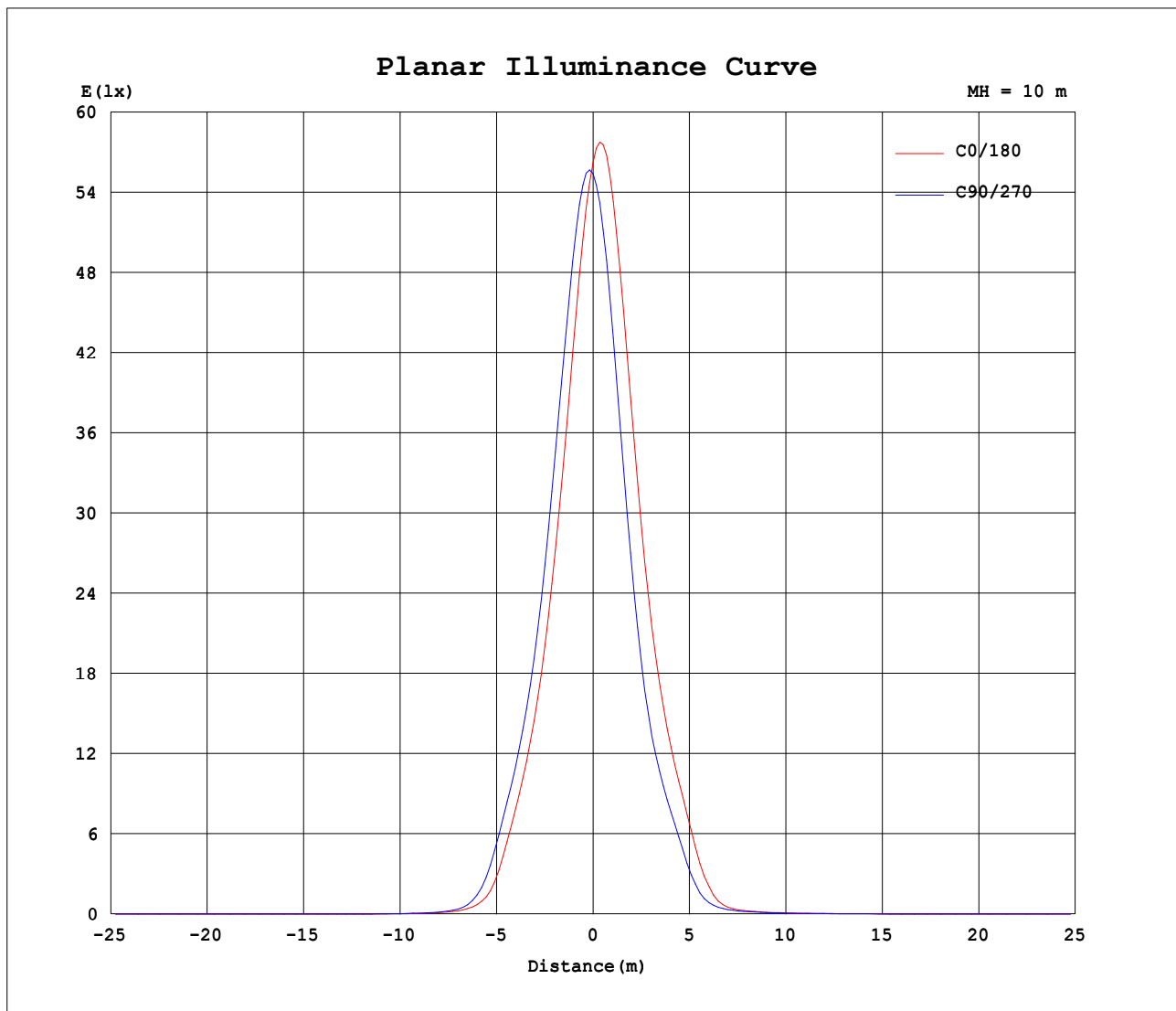
AvgL	cd/m2
L_0~180 (65) av	1402
L_0~180 (75) av	1838
L_0~180 (85) av	4464
L_90~270 (65) av	1451
L_90~270 (75) av	1976
L_90~270 (85) av	5035
L_45 (65) av	1300
L_45 (75) av	1713
L_45 (85) av	4257

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:ZR
 Test Date:2021-09-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity:65.0%
 Test Distance:8.402m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: ZR
Test Date: 2021-09-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity: 65.0%
Test Distance: 8.402m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

```