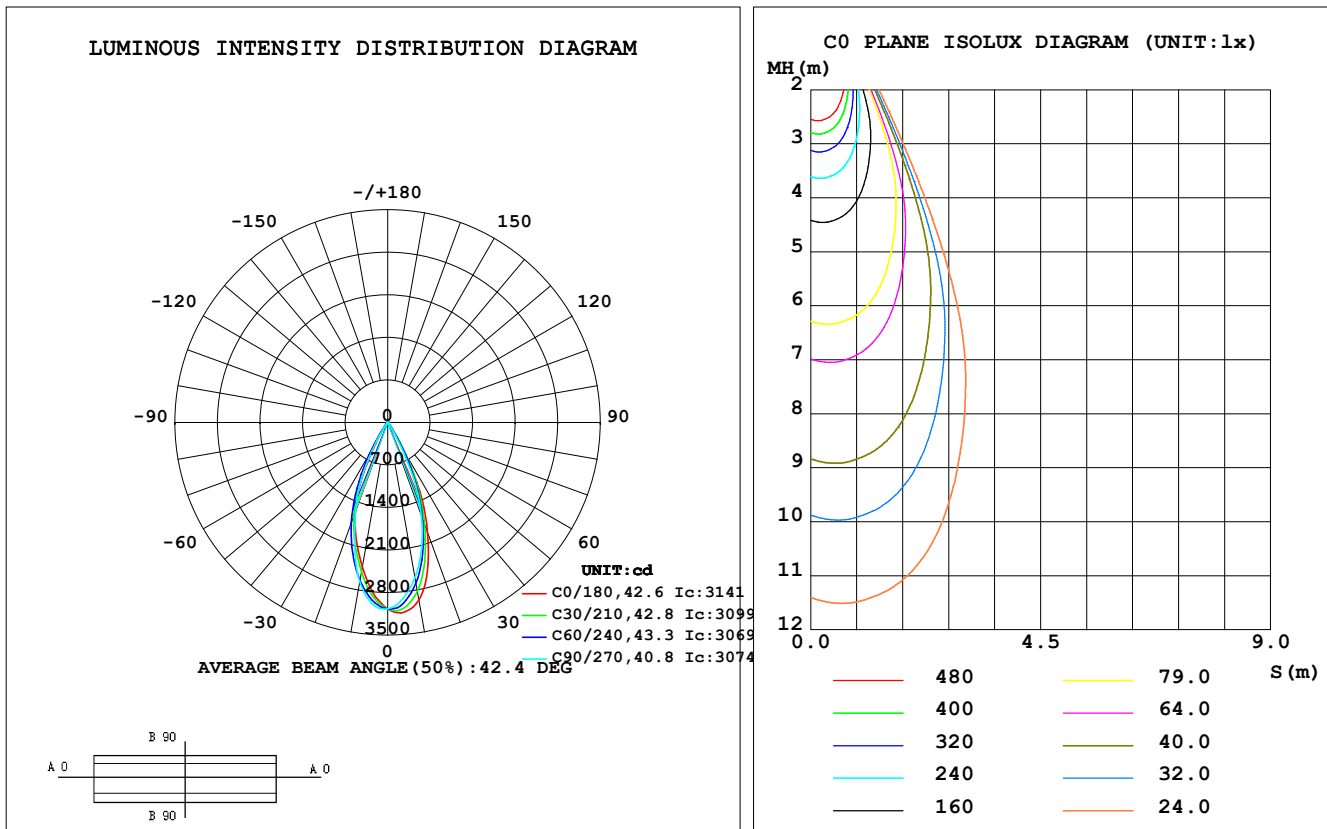


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:48.00V I:0.4790A P:22.99W PF:1.000 Freq:50.00Hz Lamp Flux:1556.47x1 lm		
NAME: M20-T41004A-24G30-R36	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:436*21.6	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 67.70 lm/W			
MODEL	3000K CRI90	I _{max} (cd)	3160	S/MH(C0/180)	0.64
NOMINAL POWER(W)	24	LOR(%)	100.0	S/MH(C90/270)	0.64
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	1556.5	η UP,DN(C0-180)	0.0,47.6
NOMINAL FLUX(lm)	1556.47	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,52.4
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	225.4	η down(%)	100.0	CIBSE SHR MAX	0.70



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	2967	2751	2590	2400	2410	2544	2666	2915	0- 10	273.3	273.3	17.6,17.6
20	1923	1743	1628	1528	1559	1676	1543	1939	10- 20	615.3	888.6	57.1,57.1
30	458.2	598.1	357.6	496.6	389.0	594.1	431.0	728.7	20- 30	502.9	1391	89.4,89.4
40	29.73	56.63	33.18	62.35	55.82	83.17	43.56	82.98	30- 40	124.3	1516	97.4,97.4
50	4.738	7.453	6.053	8.504	17.93	21.35	17.37	21.12	40- 50	19.60	1535	98.6,98.6
60	1.196	1.736	2.266	1.962	9.837	10.98	10.38	11.28	50- 60	7.916	1543	99.1,99.1
70	1.527	1.585	2.536	1.625	7.147	7.412	7.573	7.673	60- 70	5.126	1548	99.5,99.5
80	1.884	1.937	2.843	1.949	5.216	5.423	5.589	5.613	70- 80	4.365	1553	99.8,99.8
90	2.304	2.346	3.245	2.373	3.945	4.052	4.225	4.178	80- 90	3.766	1556	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): 1528.4 lm

%lum = 98.2%

%lamp = 98.2%

Conical surface Flux(120deg): 1543.2 lm

%lum = 99.1%

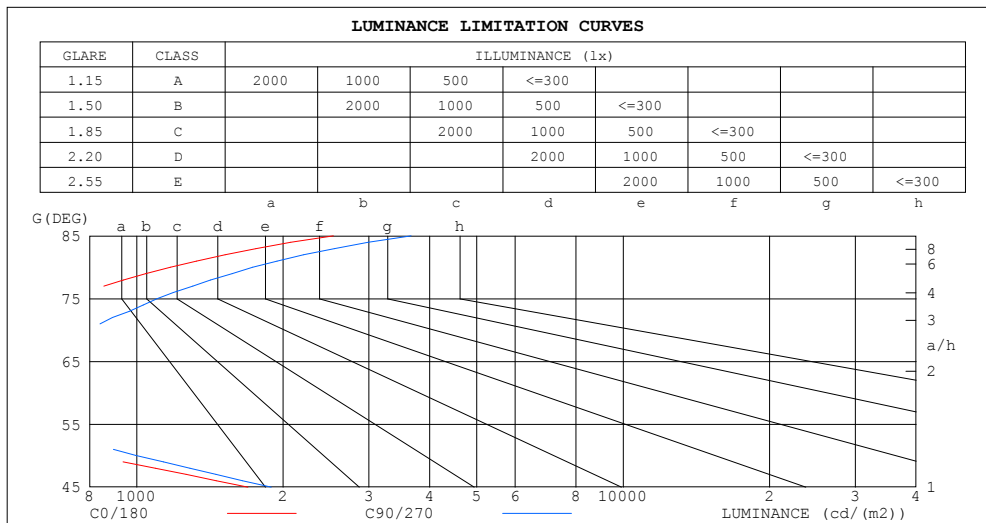
%lamp = 99.1%

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:0.4790A P:22.99W PF:1.000 Freq:50.00Hz Lamp Flux:1556.47x1 lm		
NAME: M20-T41004A-24G30-R36	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:436*21.6	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2536	3665
80	1173	1731
75	711	1103
70	483	784
65	339	591
60	259	479
55	383	599
50	797	995
45	1692	1891

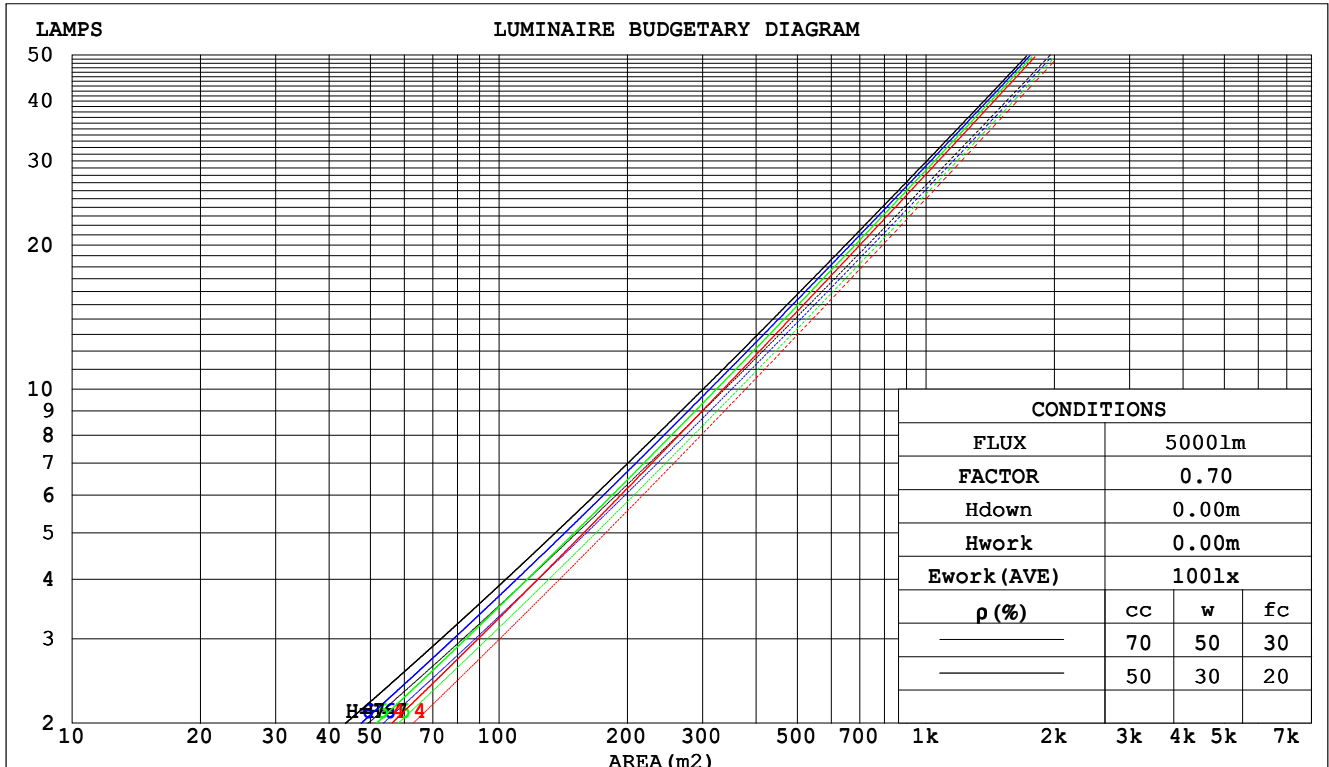
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-09-03

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:0.4790A P:22.99W PF:1.000 Freq:50.00Hz Lamp Flux:1556.47x1 lm		
NAME: M20-T41004A-24G30-R36	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	1.09	1.07	1.09	1.07	1.06	1.05	1.04	1.02	1.02	1.01	.99	.98	.97	.97	.95
2.0	1.05	1.02	.99	1.03	1.00	.97	1.00	.98	.95	.97	.95	.93	.95	.93	.91	.90
3.0	.99	.95	.92	.98	.94	.91	.95	.92	.89	.93	.90	.88	.91	.89	.87	.85
4.0	.94	.89	.86	.93	.89	.85	.91	.87	.84	.89	.86	.83	.87	.85	.82	.81
5.0	.89	.84	.81	.89	.84	.80	.87	.83	.80	.85	.82	.79	.84	.81	.78	.77
6.0	.85	.80	.76	.84	.80	.76	.83	.79	.76	.82	.78	.75	.80	.77	.75	.73
7.0	.81	.76	.73	.81	.76	.72	.79	.75	.72	.78	.75	.72	.77	.74	.71	.70
8.0	.78	.73	.69	.77	.72	.69	.76	.72	.69	.75	.71	.68	.74	.71	.68	.67
9.0	.74	.69	.66	.74	.69	.66	.73	.69	.66	.72	.68	.65	.71	.68	.65	.64
10.0	.71	.66	.63	.71	.66	.63	.70	.66	.63	.69	.65	.63	.69	.65	.62	.61



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:0.4790A P:22.99W PF:1.000 Freq:50.00Hz Lamp Flux:1556.47x1 lm		
NAME: M20-T41004A-24G30-R36	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	.161	.092	.029	.154	.088	.028	.142	.081	.026	.130	.075	.024	.120	.069	.022	
2.0	.151	.083	.025	.145	.080	.025	.135	.075	.023	.125	.070	.022	.116	.066	.021	
3.0	.142	.075	.023	.137	.073	.022	.128	.070	.021	.120	.066	.020	.113	.062	.019	
4.0	.134	.070	.020	.130	.068	.020	.123	.065	.019	.116	.062	.019	.109	.059	.018	
5.0	.127	.065	.019	.124	.064	.019	.117	.061	.018	.111	.059	.017	.106	.056	.017	
6.0	.121	.061	.017	.118	.060	.017	.112	.058	.017	.107	.056	.016	.102	.054	.016	
7.0	.116	.057	.016	.113	.056	.016	.108	.055	.016	.103	.053	.015	.099	.051	.015	
8.0	.111	.054	.015	.108	.053	.015	.104	.052	.015	.100	.051	.015	.096	.049	.014	
9.0	.106	.051	.014	.104	.051	.014	.100	.050	.014	.096	.048	.014	.093	.047	.014	
10.0	.102	.049	.014	.100	.048	.013	.097	.047	.013	.093	.046	.013	.090	.045	.013	

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	.170	.157	.146	.145	.135	.126	.100	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.153	.133	.115	.131	.114	.099	.090	.079	.069	.052	.046	.041	.017	.015	.013	
3.0	.140	.113	.092	.120	.098	.080	.082	.068	.056	.048	.040	.033	.015	.013	.011	
4.0	.128	.098	.075	.110	.085	.066	.076	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.119	.086	.063	.102	.075	.054	.070	.052	.038	.041	.031	.023	.013	.010	.008	
6.0	.111	.077	.052	.095	.067	.046	.066	.047	.032	.038	.027	.019	.012	.009	.006	
7.0	.104	.069	.045	.089	.060	.039	.062	.042	.028	.036	.025	.016	.012	.008	.005	
8.0	.098	.063	.038	.084	.054	.033	.058	.038	.024	.034	.022	.014	.011	.007	.005	
9.0	.093	.057	.033	.080	.050	.029	.055	.035	.021	.032	.021	.012	.010	.007	.004	
10.0	.088	.053	.029	.076	.046	.025	.053	.032	.018	.031	.019	.011	.010	.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:0.4790A P:22.99W PF:1.000 Freq:50.00Hz Lamp Flux:1556.47x1 lm											
NAME: M20-T41004A-24G30-R36					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	8.2	9.0	8.4	9.1	9.3	7.3	8.1	7.5	8.3	8.4	
	3H	8.0	8.8	8.3	9.0	9.2	7.2	8.0	7.5	8.2	8.3
	4H	8.0	8.7	8.3	8.9	9.1	7.2	7.9	7.5	8.1	8.4
	6H	8.0	8.7	8.3	8.9	9.1	7.3	8.0	7.6	8.2	8.5
	8H	8.1	8.7	8.4	8.9	9.2	7.5	8.1	7.8	8.4	8.6
	12H	8.2	8.8	8.5	9.1	9.3	7.8	8.4	8.1	8.7	8.9
4H	2H	7.9	8.6	8.2	8.9	9.1	7.1	7.8	7.4	8.0	8.2
	3H	7.8	8.4	8.1	8.7	9.0	7.0	7.6	7.3	7.9	8.1
	4H	7.8	8.3	8.1	8.6	8.9	7.0	7.6	7.4	7.9	8.2
	6H	7.9	8.4	8.2	8.7	9.0	7.2	7.7	7.6	8.0	8.4
	8H	8.0	8.4	8.4	8.8	9.2	7.5	7.9	7.9	8.3	8.6
	12H	8.2	8.6	8.6	9.0	9.4	8.0	8.4	8.4	8.7	9.1
8H	4H	7.7	8.1	8.1	8.5	8.9	6.9	7.4	7.3	7.7	8.1
	6H	7.8	8.2	8.3	8.6	9.0	7.2	7.6	7.7	8.0	8.4
	8H	8.1	8.4	8.5	8.8	9.3	7.6	7.9	8.0	8.3	8.8
	12H	8.5	8.8	9.0	9.2	9.7	8.3	8.5	8.7	9.0	9.5
12H	4H	7.7	8.1	8.1	8.4	8.8	6.9	7.3	7.3	7.7	8.1
	6H	7.8	8.2	8.3	8.6	9.0	7.2	7.6	7.7	8.0	8.4
	8H	8.1	8.4	8.6	8.9	9.3	7.7	8.0	8.1	8.4	8.9
Variations with the observer position at spacings:											
S = 1.0H	+ 2.2 / - 2.3					+ 2.1 / - 2.2					
1.5H	+ 4.2 / - 2.2					+ 4.2 / - 2.1					
2.0H	+ 1.0 / - 0.4					+ 1.2 / - 0.5					

CIE Pub.117, 1556 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 1.5$)

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:0.4790A P:22.99W PF:1.000 Freq:50.00Hz Lamp Flux:1556.47x1 lm		
NAME: M20-T41004A-24G30-R36	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:436*21.6	Shielding Angle:

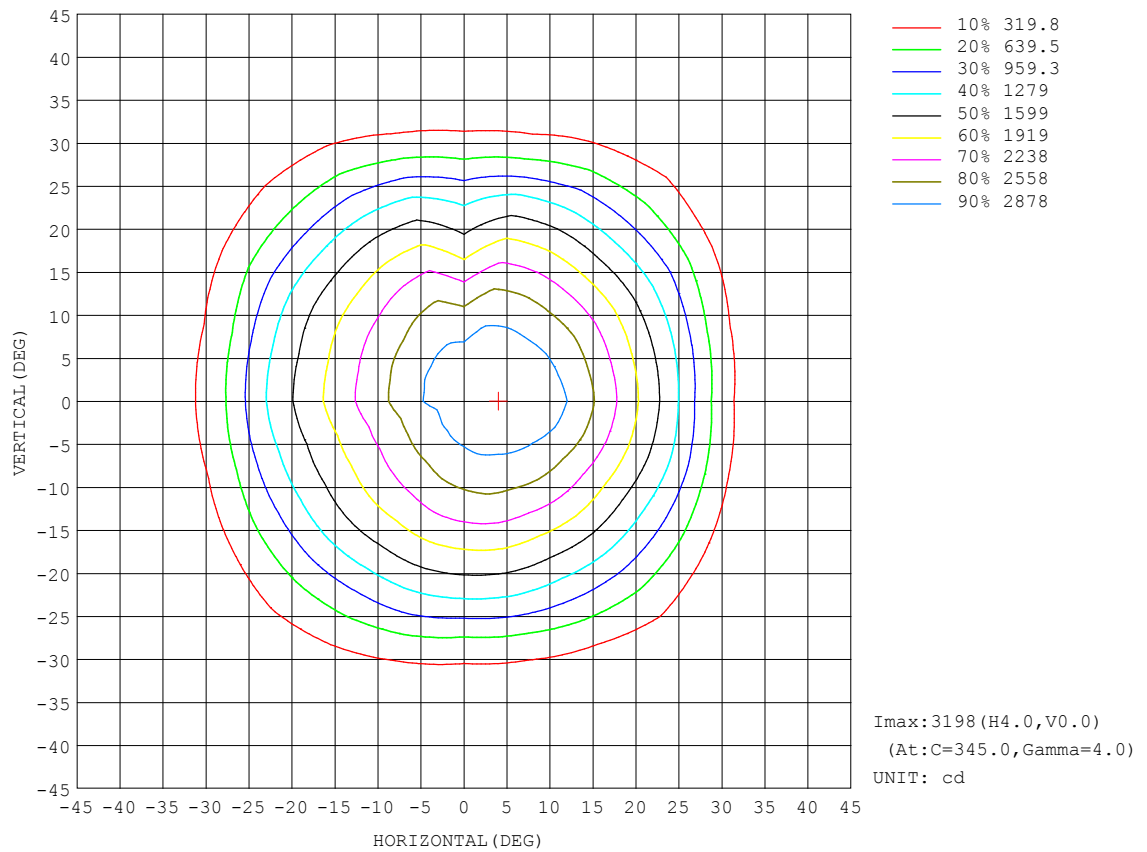
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	81	89	84	80	89	84	80	77
0.80	97	92	88	96	91	88	95	91	88	84
1.00	101	96	92	100	95	92	99	95	92	88
1.25	105	100	96	104	99	96	102	98	95	91
1.50	107	103	100	106	102	99	104	100	98	94
2.00	109	105	102	108	104	102	105	102	100	95
2.50	111	107	104	109	106	104	106	104	102	96
3.00	112	109	106	110	108	105	107	105	103	97
4.00	114	112	110	112	110	108	109	107	105	98
5.00	115	113	112	113	111	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:0.4790A P:22.99W PF:1.000 Freq:50.00Hz Lamp Flux:1556.47x1 lm		
NAME: M20-T41004A-24G30-R36	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:436*21.6	Shielding Angle:

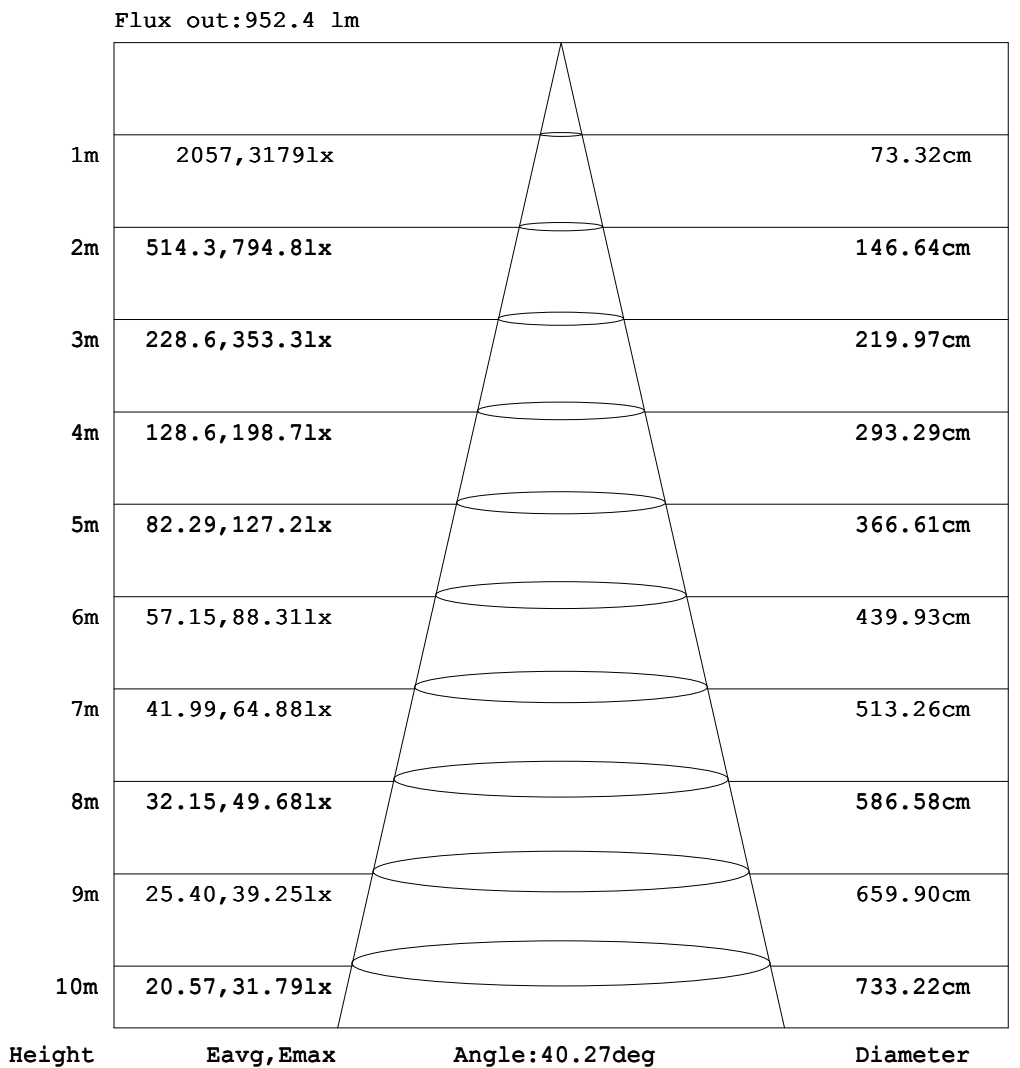


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-09-03

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:0.4790A P:22.99W PF:1.000 Freq:50.00Hz Lamp Flux:1556.47x1 lm		
NAME: M20-T41004A-24G30-R36	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:436*21.6	Shielding Angle:



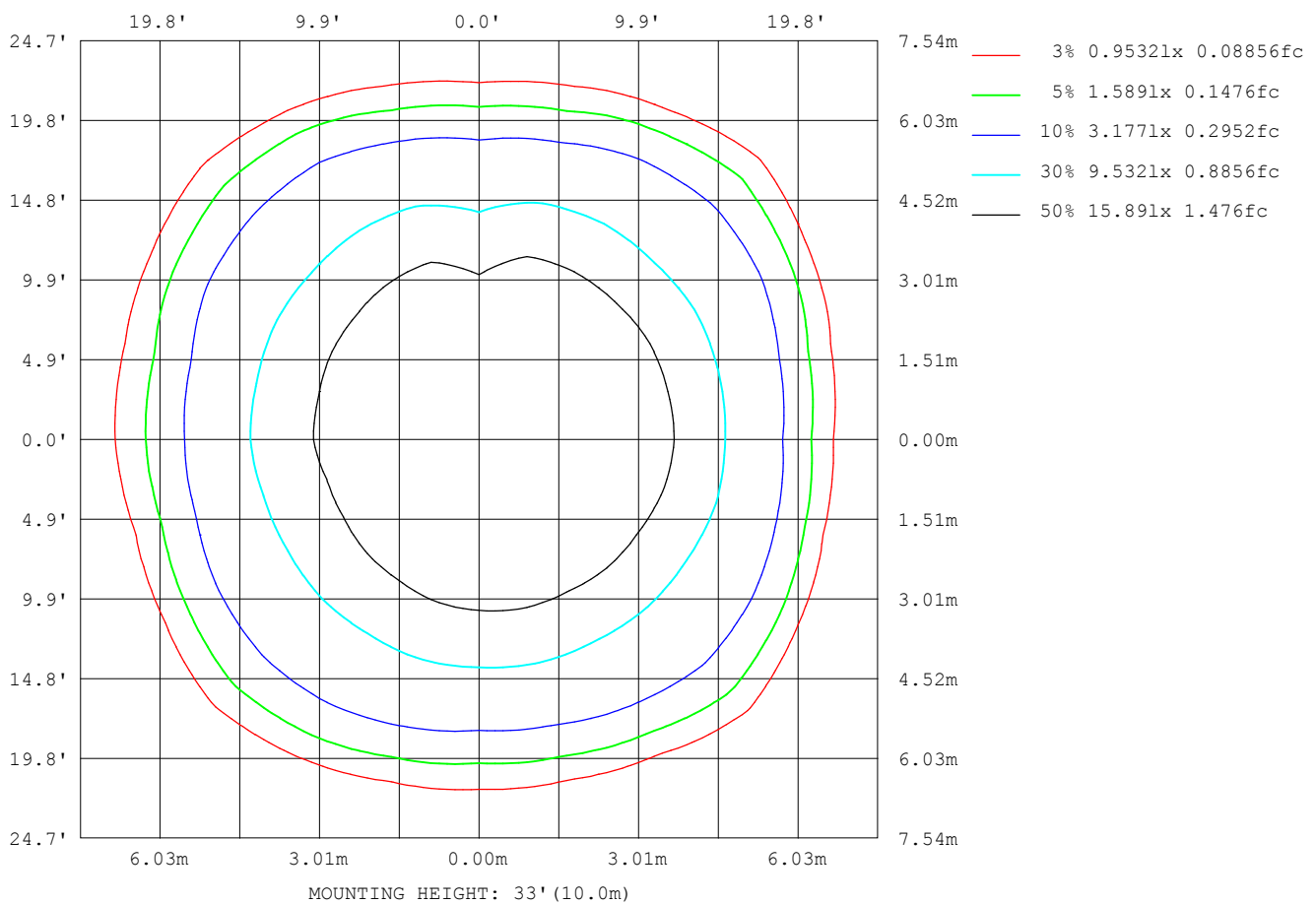
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.4790A P:22.99W PF:1.000 Freq:50.00Hz Lamp Flux:1556.47x1 lm		
NAME: M20-T41004A-24G30-R36	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:0.4790A P:22.99W PF:1.000 Freq:50.00Hz Lamp Flux:1556.47x1 lm		
NAME: M20-T41004A-24G30-R36	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:436*21.6	Shielding Angle:

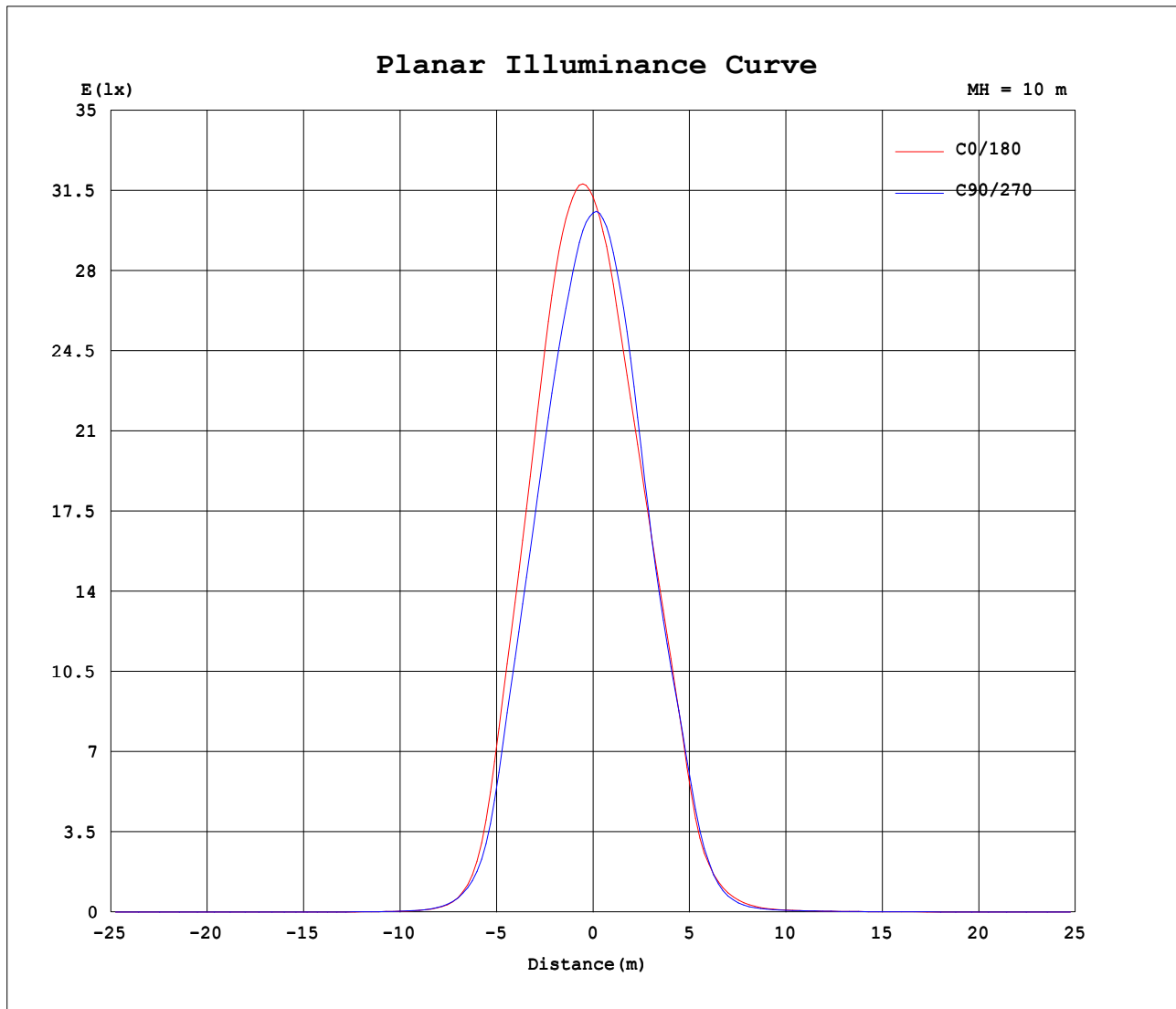
AvgL	cd/m2
L_0~180 (65) av	1213
L_0~180 (75) av	1601
L_0~180 (85) av	3976
L_90~270 (65) av	1401
L_90~270 (75) av	1889
L_90~270 (85) av	4775
L_45 (65) av	1291
L_45 (75) av	1690
L_45 (85) av	4177

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
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