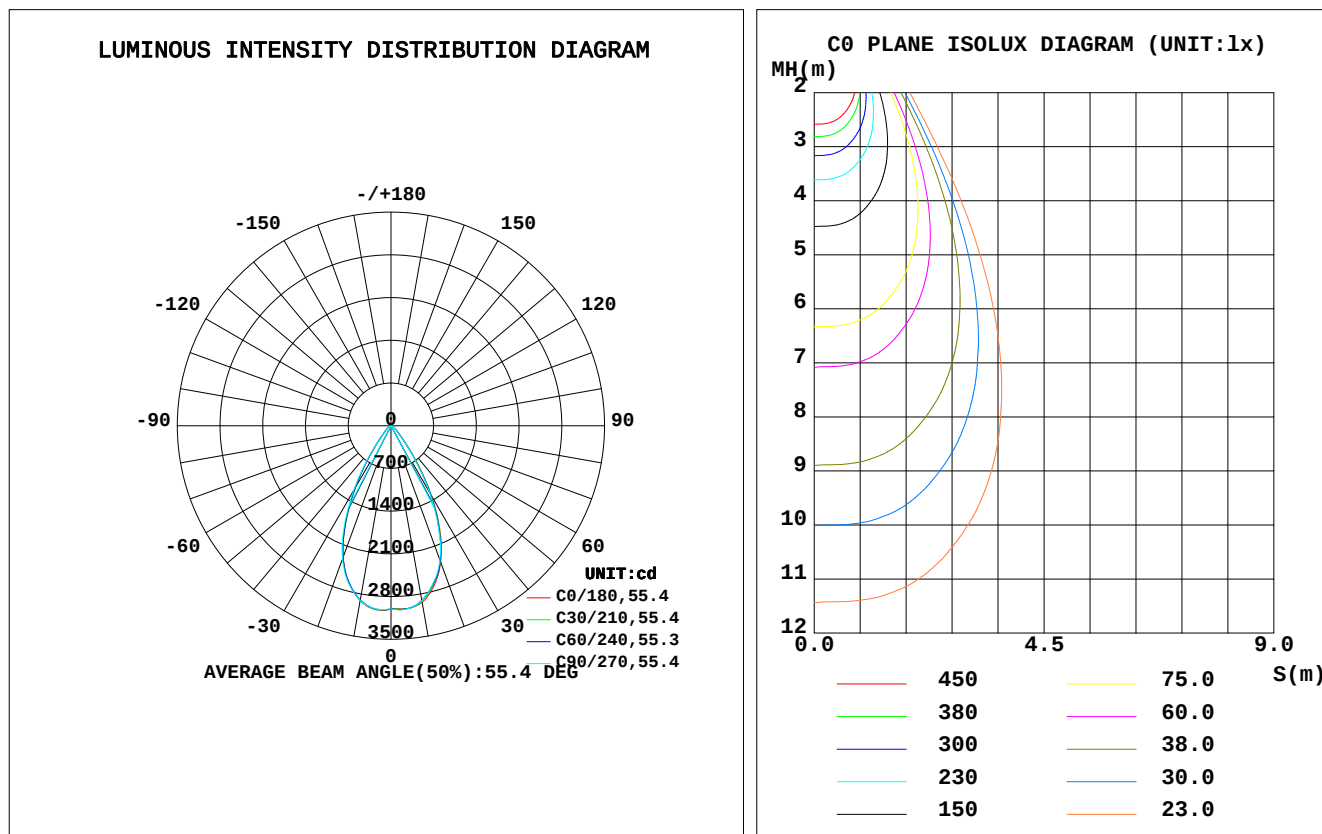


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: VN-TL0030-02	TYPE: track lights	WEIGHT: 1.2
SPEC.: 3000K CRI90 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 95.37 lm/W
MODEL	CXM-14-ac30	I _{max} (cd)	3032	S/MH(C0/180)	0.82	
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	0.83	
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	2579.7	η UP, DN(C0-180)	0.0, 50.8	
NOMINAL FLUX(lm)	2579.7	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 49.2	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75	
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.85	



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3DEG
 Operators: XYJ
 Test Date: 2017-10-10

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.401
 Humidity: 65.0%
 Test Distance: 5.190m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

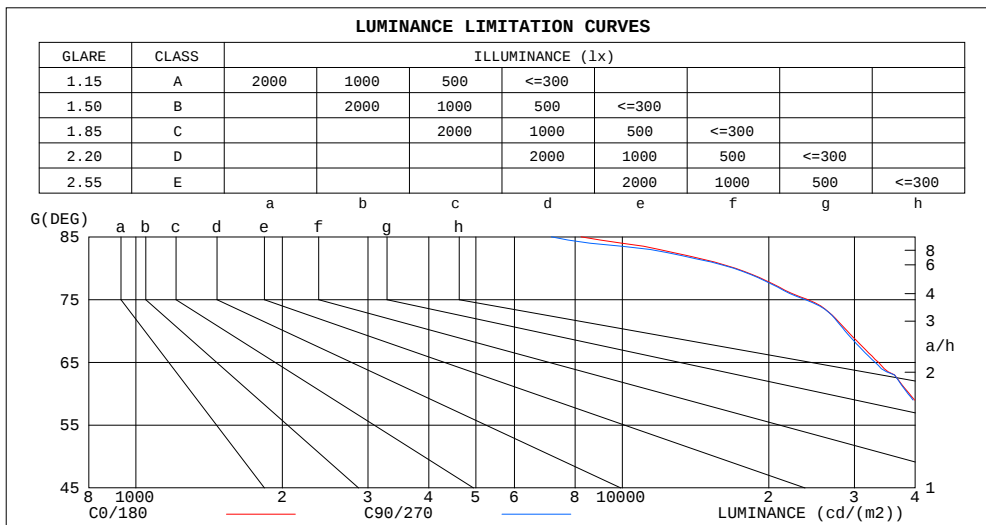
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2938	2918	2909	2922	2909	2893	2904	2920	0- 10	284.5	284.5	11,11
20	2380	2376	2344	2331	2291	2280	2324	2354	10- 20	746.2	1031	40,40
30	1324	1327	1265	1232	1165	1147	1222	1269	20- 30	824.7	1855	71.9,71.9
40	362.6	361.7	339.6	323.2	296.9	286.8	312.3	333.4	30- 40	442.9	2298	89.1,89.1
50	114.0	115.6	111.0	108.6	103.9	102.8	105.6	108.8	40- 50	142.4	2441	94.6,94.6
60	62.39	63.61	62.15	60.49	58.21	57.88	59.29	60.39	50- 60	72.52	2513	97.4,97.4
70	31.82	32.65	31.56	30.25	28.28	27.72	28.87	29.90	60- 70	43.71	2557	99.1,99.1
80	9.502	10.11	9.452	8.413	6.990	6.695	7.382	8.058	70- 80	19.66	2577	99.9,99.9
90	0.8068	0.7919	0.7798	0.7767	0.7517	0.7411	0.7445	0.7325	80- 90	3.109	2580	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: 15.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:XYJ
 Test Date:2017-10-10

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.401
 Humidity:65.0%
 Test Distance:5.190m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

NAME: VN-TLO030-02	TYPE: track lights	WEIGHT: 1.2
SPEC.: 3000K CRI90 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	8224	7151
80	17057	16930
75	24040	23757
70	28995	28701
65	33619	33082
60	38896	38658
55	44720	43795
50	55260	53711
45	82631	78453

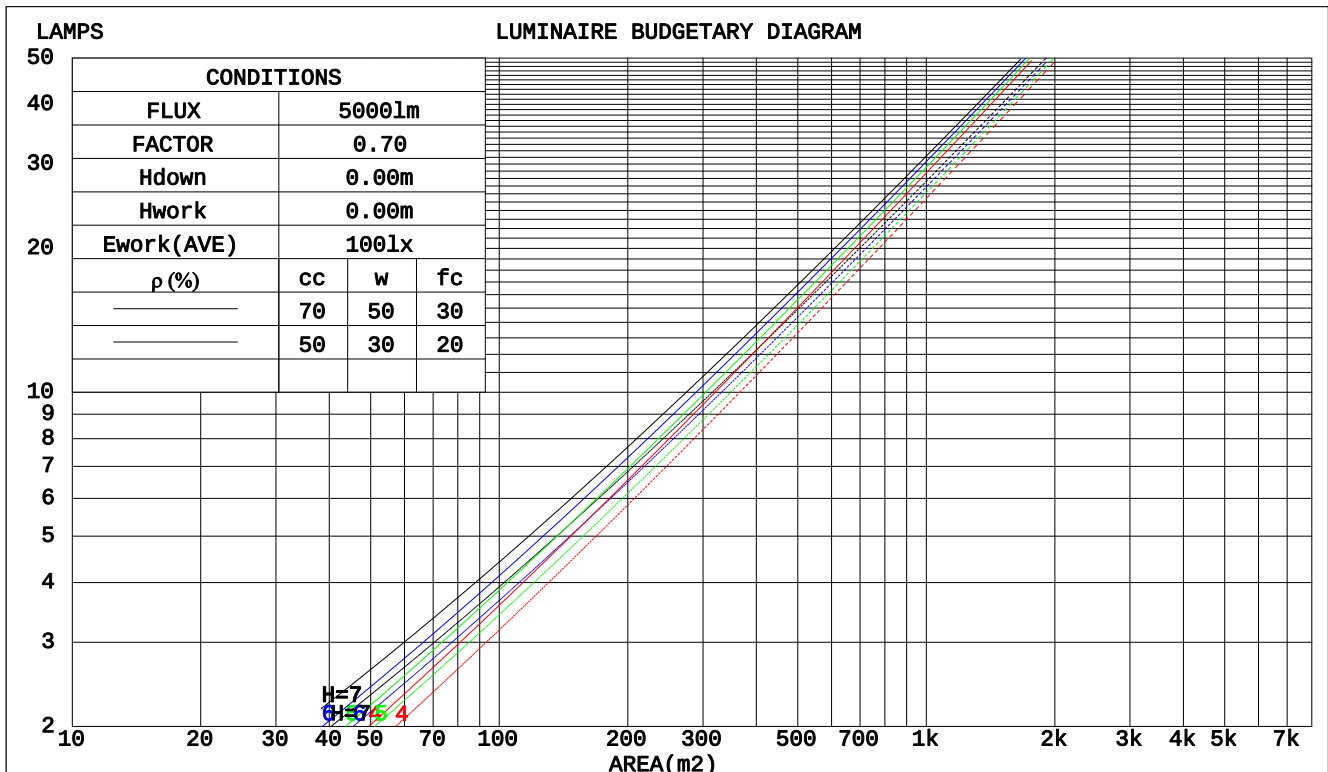
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3DEG
 Operators: XYJ
 Test Date: 2017-10-10

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.401
 Humidity: 65.0%
 Test Distance: 5.190m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: VN-TLO030-02	TYPE:track lights	WEIGHT:1.2
SPEC.:3000K CRI90 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	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						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	1.10	1.08	1.05	1.08	1.06	1.04	1.04	1.02	1.01	1.00	.99	.98	.97	.96	.95	.93
2.0	1.02	.98	.95	1.01	.97	.94	.97	.94	.92	.94	.92	.90	.92	.90	.88	.86
3.0	.95	.90	.86	.94	.89	.85	.91	.87	.84	.89	.85	.83	.86	.84	.81	.80
4.0	.89	.83	.79	.88	.82	.78	.86	.81	.77	.84	.80	.77	.82	.78	.76	.74
5.0	.83	.77	.73	.82	.77	.73	.80	.76	.72	.79	.75	.71	.77	.74	.71	.69
6.0	.78	.72	.68	.77	.72	.67	.76	.71	.67	.74	.70	.67	.73	.69	.66	.65
7.0	.74	.67	.63	.73	.67	.63	.72	.66	.63	.70	.66	.62	.69	.65	.62	.61
8.0	.69	.63	.59	.69	.63	.59	.68	.62	.59	.67	.62	.59	.66	.61	.58	.57
9.0	.66	.60	.56	.65	.59	.56	.64	.59	.55	.63	.59	.55	.62	.58	.55	.54
10.0	.62	.56	.52	.62	.56	.52	.61	.56	.52	.60	.55	.52	.59	.55	.52	.51



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2017-10-10

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 γ Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:5.190m [K=1.0000]
Remarks:

WEC AND CCEC

NAME: VN-TL0030-02	TYPE:track lights	WEIGHT:1.2
SPEC.:3000K CRI90 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	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	.186	.106	.033	.179	.102	.032	.166	.095	.030	.155	.089	.029	.144	.083	.027		
2.0	.177	.097	.030	.172	.095	.029	.161	.090	.028	.151	.085	.027	.142	.080	.025		
3.0	.168	.090	.027	.163	.088	.026	.154	.084	.025	.146	.080	.025	.138	.076	.024		
4.0	.160	.083	.024	.155	.081	.024	.147	.078	.023	.140	.075	.023	.133	.072	.022		
5.0	.151	.077	.022	.148	.076	.022	.141	.073	.022	.134	.071	.021	.128	.069	.021		
6.0	.144	.072	.021	.141	.071	.020	.135	.069	.020	.129	.067	.020	.124	.065	.019		
7.0	.137	.068	.019	.134	.067	.019	.129	.065	.019	.124	.064	.018	.119	.062	.018		
8.0	.131	.064	.018	.128	.063	.018	.124	.062	.018	.119	.060	.017	.115	.059	.017		
9.0	.125	.060	.017	.123	.060	.017	.119	.059	.017	.114	.057	.016	.111	.056	.016		
10.0	.120	.057	.016	.118	.057	.016	.114	.056	.016	.110	.055	.016	.107	.054	.015		

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	.172	.157	.144	.147	.135	.124	.101	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.157	.132	.112	.134	.114	.097	.092	.079	.067	.053	.046	.040	.017	.015	.013	
3.0	.145	.114	.089	.124	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.135	.099	.072	.116	.086	.062	.080	.060	.044	.046	.035	.026	.015	.011	.009	
5.0	.126	.087	.059	.108	.076	.051	.075	.053	.036	.043	.031	.021	.014	.010	.007	
6.0	.119	.078	.049	.102	.068	.043	.070	.047	.030	.041	.028	.018	.013	.009	.006	
7.0	.112	.071	.042	.096	.061	.036	.067	.043	.026	.039	.025	.015	.013	.008	.005	
8.0	.106	.064	.036	.092	.056	.031	.063	.039	.022	.037	.023	.013	.012	.008	.004	
9.0	.101	.059	.031	.087	.051	.027	.060	.036	.019	.035	.021	.011	.011	.007	.004	
10.0	.097	.055	.027	.083	.048	.024	.058	.034	.017	.034	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:XYJ
 Test Date:2017-10-10

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.401
 Humidity:65.0%
 Test Distance:5.190m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

NAME: VN-TL0030-02						TYPE:track lights			WEIGHT:1.2		
SPEC.:3000K CRI90 60D						DIM.:			SERIAL No.:		
MFR.: 1						SUR.:			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		20.8	21.8	21.0	22.0	22.1	20.6	21.6	20.8	21.7	21.9
3H		21.0	21.9	21.3	22.1	22.3	20.8	21.7	21.1	21.9	22.1
4H		21.1	22.0	21.4	22.2	22.4	20.9	21.8	21.2	22.0	22.2
6H		21.1	21.9	21.4	22.2	22.4	21.0	21.8	21.3	22.0	22.2
8H		21.1	21.9	21.4	22.1	22.4	20.9	21.7	21.2	22.0	22.2
12H		21.1	21.8	21.4	22.1	22.4	20.9	21.6	21.2	21.9	22.2
4H 2H		20.8	21.6	21.1	21.9	22.1	20.6	21.5	20.9	21.7	21.9
3H		21.1	21.9	21.5	22.2	22.4	21.0	21.7	21.3	22.0	22.3
4H		21.3	22.0	21.6	22.3	22.6	21.1	21.8	21.5	22.1	22.4
6H		21.4	21.9	21.7	22.3	22.6	21.2	21.8	21.6	22.1	22.5
8H		21.4	21.9	21.7	22.2	22.6	21.2	21.7	21.6	22.1	22.5
12H		21.3	21.8	21.7	22.2	22.6	21.2	21.7	21.6	22.0	22.4
8H 4H		21.3	21.8	21.7	22.2	22.5	21.1	21.7	21.5	22.0	22.4
6H		21.4	21.8	21.8	22.2	22.6	21.2	21.7	21.7	22.1	22.5
8H		21.4	21.8	21.8	22.2	22.6	21.2	21.6	21.7	22.1	22.5
12H		21.4	21.7	21.8	22.1	22.6	21.2	21.6	21.7	22.0	22.5
12H 4H		21.2	21.7	21.7	22.1	22.5	21.1	21.6	21.5	22.0	22.3
6H		21.4	21.8	21.8	22.2	22.6	21.2	21.6	21.7	22.0	22.5
8H		21.4	21.7	21.8	22.1	22.6	21.2	21.6	21.7	22.0	22.5
Variations with the observer position at spacings:											
S = 1.0H		+ 1.9 / - 2.1					+ 1.7 / - 2.0				
1.5H		+ 3.4 / - 1.8					+ 3.2 / - 1.7				
2.0H		+ 1.8 / - 0.9					+ 1.7 / - 0.9				

CIE Pub.117, 2580 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 3.3$)

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2017-10-10

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 γ Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:5.190m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

NAME: VN-TLO030-02	TYPE: track lights	WEIGHT: 1.2
SPEC.: 3000K CRI90 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

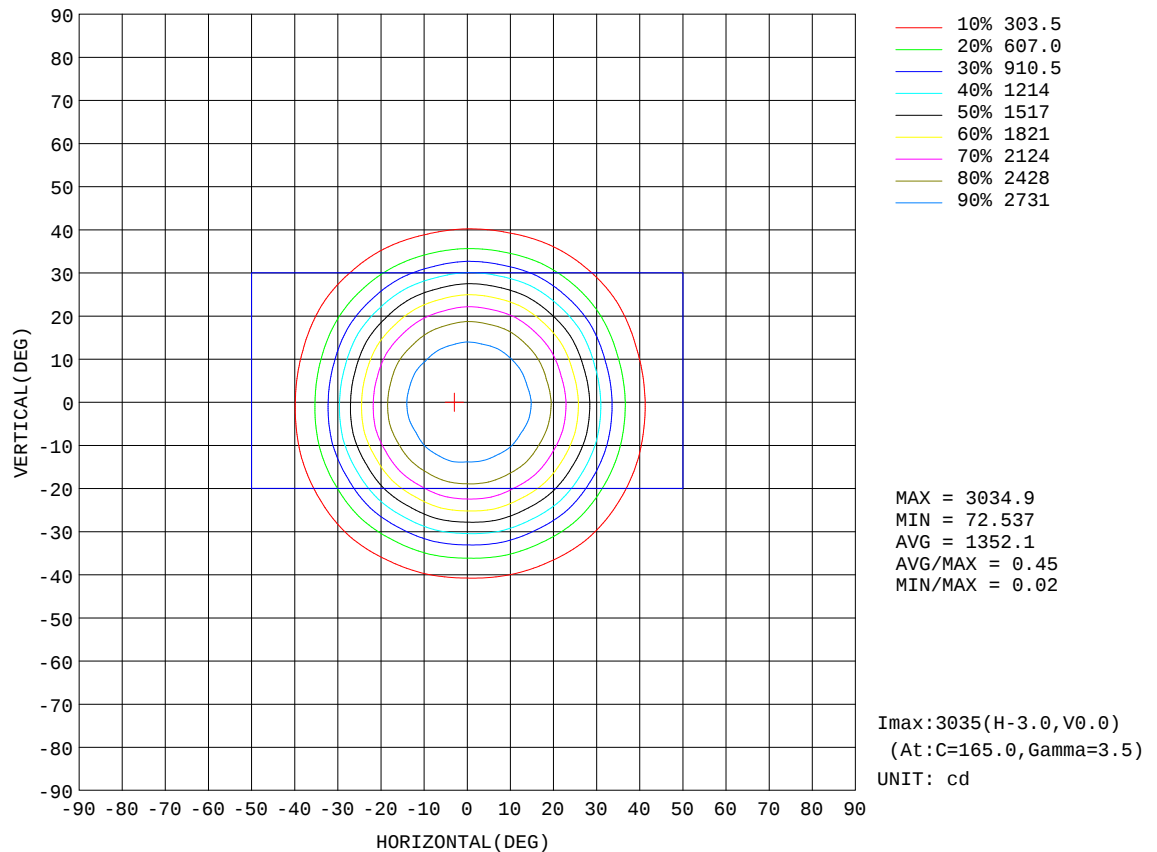
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	85	78	74	84	78	74	83	77	74	70
0.80	92	86	82	92	86	82	91	85	82	78
1.00	97	91	87	96	91	87	95	91	86	82
1.25	102	96	92	100	95	92	98	94	91	87
1.50	104	99	96	103	99	95	101	97	94	89
2.00	107	103	100	106	102	99	103	100	97	92
2.50	109	105	102	108	104	101	105	102	99	93
3.00	111	107	104	109	106	103	106	103	101	95
4.00	113	110	108	111	109	106	107	105	104	97
5.00	115	112	110	112	110	108	108	107	105	98
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: MEDIUM
 Temperature: 25.3DEG
 Operators: XYJ
 Test Date: 2017-10-10

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.401
 Humidity: 65.0%
 Test Distance: 5.190m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

NAME: VN-TL0030-02	TYPE: track lights	WEIGHT: 1.2
SPEC.: 3000K CRI90 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

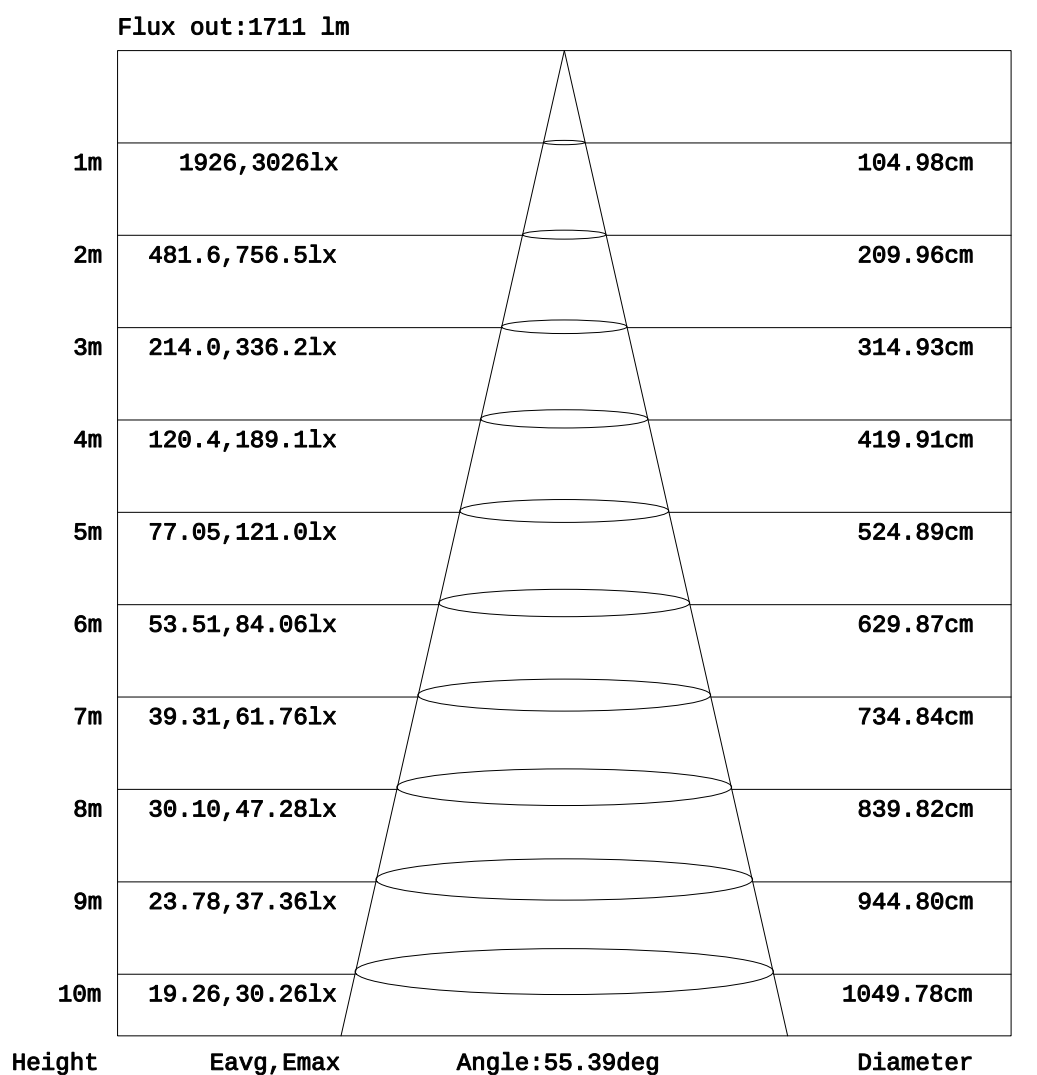


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: XYJ
Test Date: 2017-10-10

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.401
Humidity: 65.0%
Test Distance: 5.190m [K=1.0000]
Remarks:

AAI Figure

NAME: VN-TLO030-02	TYPE: track lights	WEIGHT: 1.2
SPEC.: 3000K CRI90 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



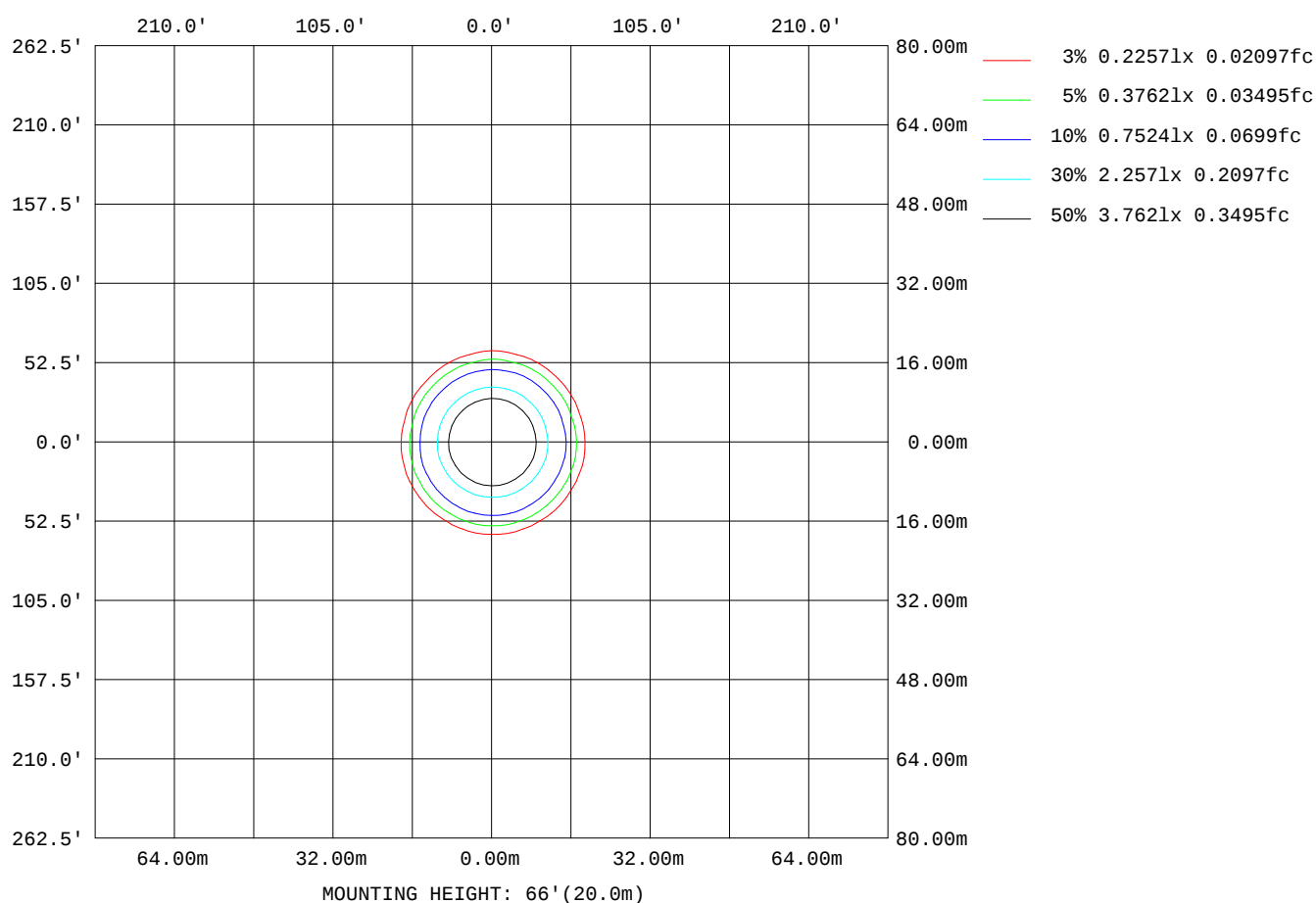
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: XYJ
Test Date: 2017-10-10

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.401
Humidity: 65.0%
Test Distance: 5.190m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

NAME: VN-TL0030-02	TYPE: track lights	WEIGHT: 1.2
SPEC.: 3000K CRI90 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: XYJ
Test Date: 2017-10-10

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.401
Humidity: 65.0%
Test Distance: 5.190m [K=1.0000]
Remarks:

LED Avg.L Report

NAME: VN-TLO030-02	TYPE:track lights	WEIGHT:1.2
SPEC.:3000K CRI90 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

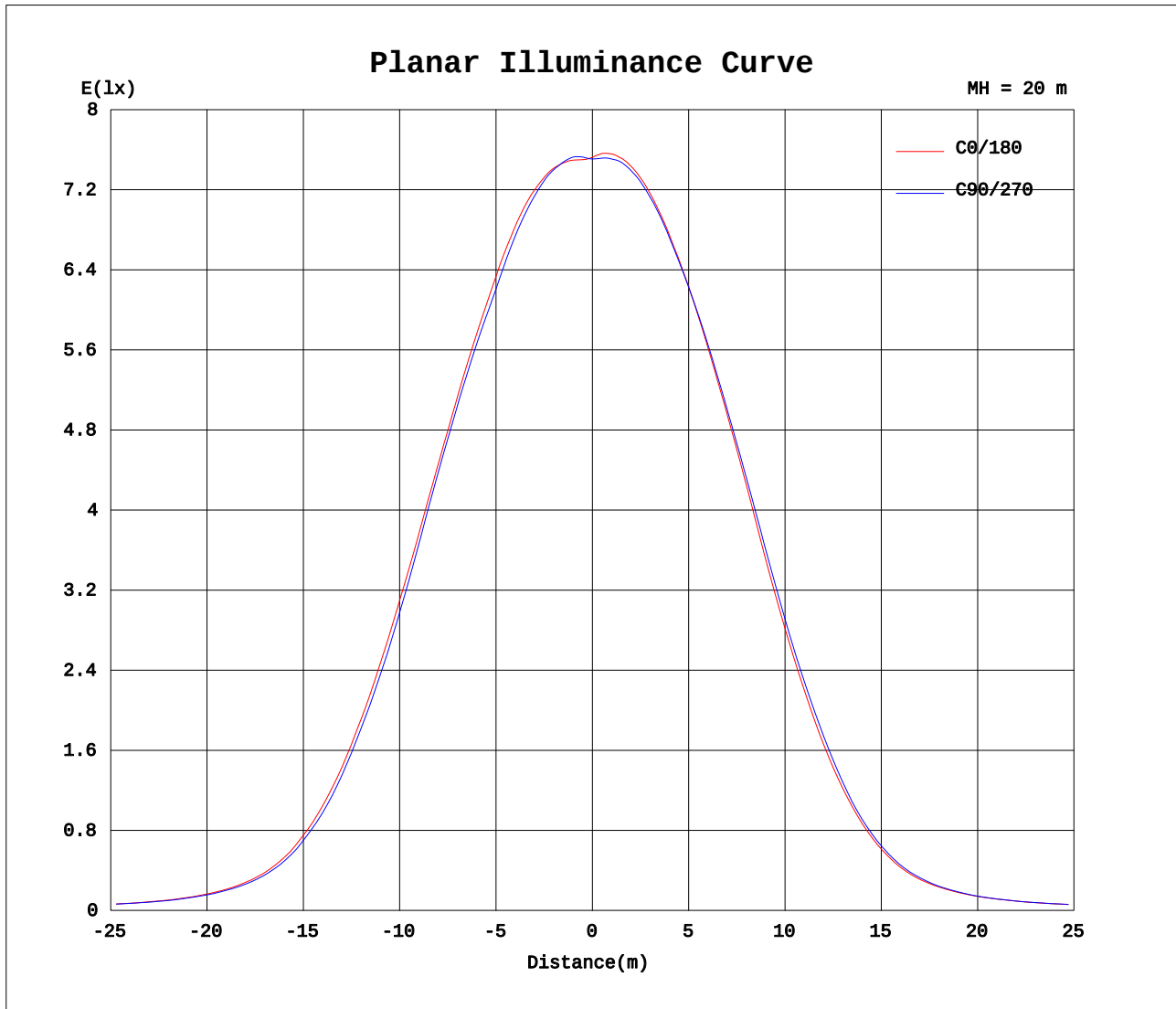
AvgL	cd/m2
L_0~180(65)av	31885
L_0~180(75)av	21799
L_0~180(85)av	6680
L_90~270(65)av	32058
L_90~270(75)av	21887
L_90~270(85)av	6488
L_45(65)av	31910
L_45(75)av	21884
L_45(85)av	6574

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2017-10-10

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:5.190m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3DEG
 Operators: XYJ
 Test Date: 2017-10-10

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.401
 Humidity: 65.0%
 Test Distance: 5.190m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: VN-TL0030-02	TYPE:track lights	WEIGHT:1.2
SPEC.:3000K CRI90 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

Table - -1

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: XYJ
Test Date: 2017-10-10

```

Range: 0 - 90DEG
Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:5.190m [K=1.0000]
Remarks:

```

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: VN-TL0030-02	TYPE:track lights	WEIGHT:1.2
SPEC.:3000K CRI90 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

Table - - 2

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: XYJ
Test Date: 2017-10-10

```

Range: 0 - 90DEG
Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:5.190m [K=1.0000]
Remarks:

```