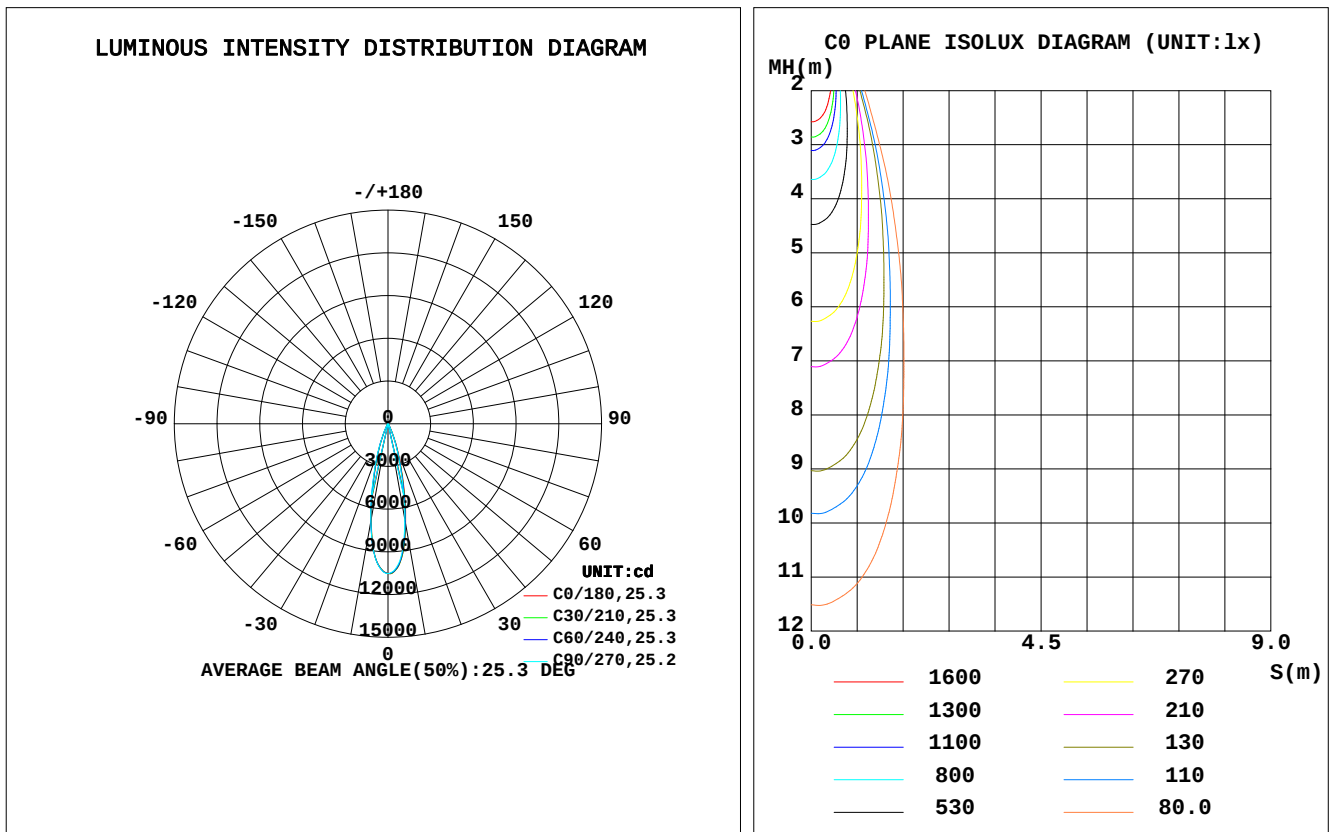


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: VN-TLO030-02	TYPE: track lights	WEIGHT: 1.2
SPEC.: 3000K CRI90 18D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 94.16 lm/W
MODEL	CXM-14-ac30	Imax(cd)	10544	S/MH(C0/180)	0.42	
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	0.44	
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	2563.4	η UP, DN(C0-180)	0.0, 49.8	
NOMINAL FLUX(lm)	2563.4	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.2	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00	
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.00	



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:

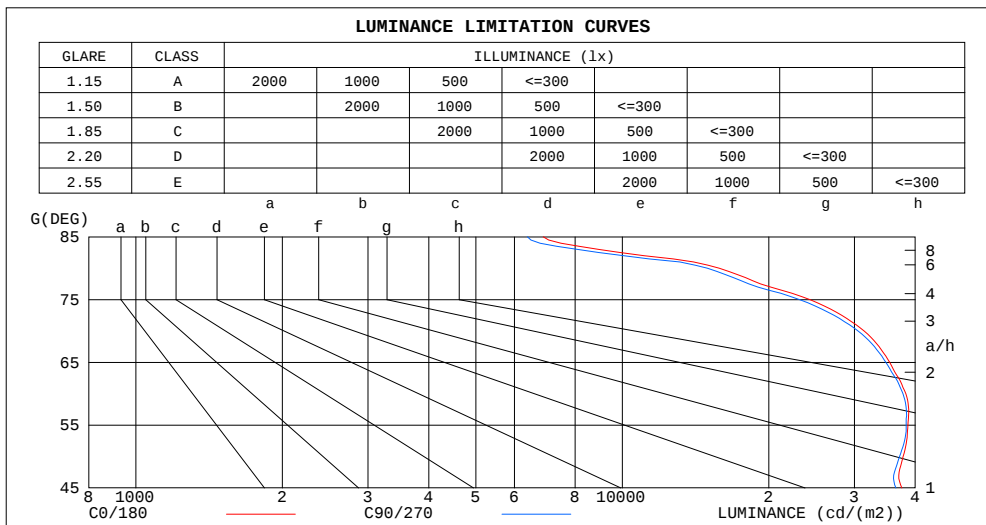
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	716.6	716.4	680.6	688.3	682.6	682.4	697.2	695.9	0- 10	833.4	833.4	32.5, 32.5
20	196.6	188.2	172.7	176.2	180.2	178.7	195.8	191.5	10- 20	1074	1908	74.4, 74.4
30	29.05	24.77	23.41	24.39	25.69	23.10	27.71	28.22	20- 30	360.1	2268	88.5, 88.5
40	10.55	10.24	10.17	10.39	10.23	9.813	10.17	10.31	30- 40	93.24	2361	92.1, 92.1
50	7.746	7.622	7.688	7.792	8.115	8.085	8.048	7.683	40- 50	67.50	2429	94.7, 94.7
60	6.100	6.104	6.073	6.077	6.099	6.101	6.188	6.005	50- 60	64.38	2493	97.3, 97.3
70	3.424	3.459	3.358	3.310	3.235	3.272	3.379	3.344	60- 70	46.89	2540	99.1, 99.1
80	0.8757	0.8914	0.8362	0.7993	0.7497	0.7607	0.8057	0.8046	70- 80	20.65	2561	99.9, 99.9
90	0.0846	0.0840	0.0845	0.0825	0.0802	0.0769	0.0805	0.0778	80- 90	2.839	2563	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:×10cd									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
 γ 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 18D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	6880	6380
80	15812	14960
75	24281	23121
70	31392	30499
65	35446	34815
60	38252	37734
55	38651	38328
50	37784	37155
45	37542	36518

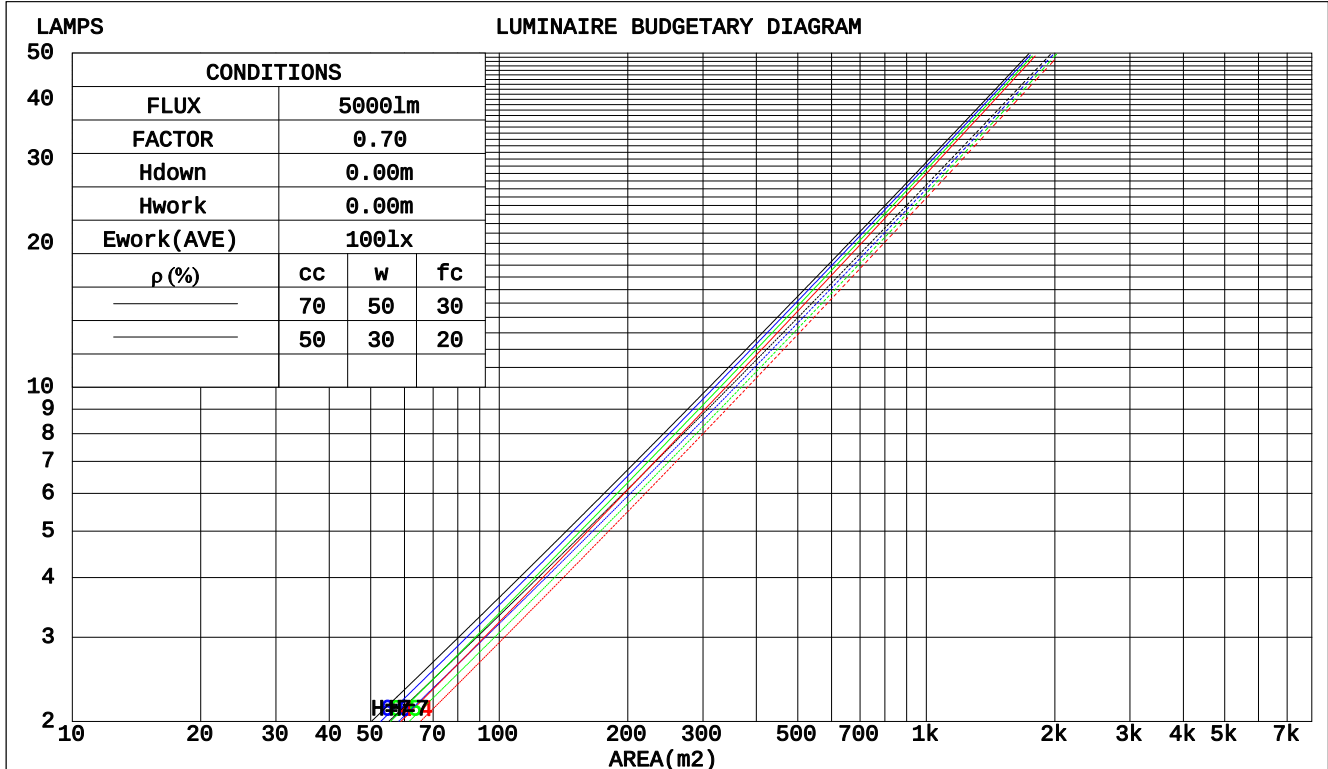
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3DEG
 Operators: XYJ
 Test Date: 2017-10-10

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 18D	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	Coefficients of Utilization(CU)															
RCR:Room Cavity Ratio																
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	.00
1.0	1.12	1.10	1.08	1.10	1.08	1.06	1.06	1.04	1.03	1.02	1.01	.00	.99	.98	.97	.95
2.0	1.06	1.02	.00	1.04	1.01	.98	1.01	.98	.96	.98	.96	.94	.95	.94	.92	.91
3.0	1.01	.96	.93	.99	.95	.92	.97	.94	.91	.94	.92	.90	.92	.90	.88	.87
4.0	.96	.92	.88	.95	.91	.88	.93	.89	.87	.91	.88	.86	.89	.87	.85	.83
5.0	.92	.87	.84	.91	.87	.84	.89	.86	.83	.88	.85	.82	.87	.84	.82	.80
6.0	.89	.84	.81	.88	.83	.80	.86	.83	.80	.85	.82	.79	.84	.81	.79	.78
7.0	.85	.81	.77	.85	.80	.77	.84	.80	.77	.83	.79	.77	.82	.78	.76	.75
8.0	.83	.78	.75	.82	.78	.75	.81	.77	.74	.80	.77	.74	.79	.76	.74	.73
9.0	.80	.75	.72	.79	.75	.72	.79	.75	.72	.78	.74	.72	.77	.74	.72	.71
10.0	.78	.73	.70	.77	.73	.70	.76	.73	.70	.76	.72	.70	.75	.72	.70	.69



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:

WEC AND CCEC

NAME: VN-TL0030-02	TYPE:track lights	WEIGHT:1.2
SPEC.:3000K CRI90 18D	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	.155	.088	.028	.148	.084	.027	.135	.078	.025	.124	.071	.023	.113	.066	.021		
2.0	.144	.079	.024	.139	.076	.024	.128	.071	.022	.119	.067	.021	.110	.062	.020		
3.0	.134	.071	.021	.129	.069	.021	.121	.065	.020	.113	.062	.019	.105	.058	.018		
4.0	.125	.065	.019	.121	.063	.019	.114	.060	.018	.107	.057	.017	.101	.055	.017		
5.0	.117	.060	.017	.114	.059	.017	.108	.056	.017	.102	.054	.016	.096	.051	.015		
6.0	.110	.055	.016	.108	.054	.016	.102	.052	.015	.097	.050	.015	.092	.049	.014		
7.0	.104	.052	.015	.102	.051	.014	.097	.049	.014	.093	.047	.014	.088	.046	.014		
8.0	.099	.048	.014	.097	.048	.013	.093	.046	.013	.089	.045	.013	.085	.044	.013		
9.0	.094	.046	.013	.092	.045	.013	.088	.044	.012	.085	.043	.012	.082	.042	.012		
10.0	.090	.043	.012	.088	.043	.012	.085	.042	.012	.082	.041	.012	.079	.040	.011		

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	.170	.158	.147	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.153	.133	.116	.131	.114	.100	.090	.079	.070	.052	.046	.041	.017	.015	.013	
3.0	.138	.113	.094	.119	.098	.081	.081	.068	.057	.047	.040	.034	.015	.013	.011	
4.0	.126	.098	.077	.108	.085	.067	.075	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.116	.086	.064	.100	.074	.056	.069	.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	.034	.024	.017	.011	.008	.006	
8.0	.093	.062	.040	.080	.053	.035	.056	.037	.025	.032	.022	.015	.010	.007	.005	
9.0	.087	.056	.035	.075	.049	.030	.052	.034	.021	.030	.020	.013	.010	.007	.004	
10.0	.082	.051	.030	.071	.044	.027	.049	.031	.019	.029	.018	.011	.009	.006	.004	

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 18D						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		16.0	16.7	16.2	16.9	17.0	16.1	16.8	16.3	16.9	17.1
3H		17.4	18.1	17.6	18.3	18.5	17.4	18.1	17.7	18.3	18.5
4H		17.8	18.5	18.1	18.7	18.9	17.8	18.4	18.1	18.7	18.9
6H		18.0	18.6	18.3	18.8	19.1	17.9	18.5	18.2	18.8	19.0
8H		18.0	18.6	18.3	18.8	19.1	17.9	18.5	18.2	18.8	19.0
12H		17.9	18.5	18.2	18.8	19.0	17.9	18.5	18.2	18.7	19.0
4H 2H		16.6	17.3	16.9	17.5	17.7	16.7	17.4	17.0	17.6	17.8
3H		18.2	18.8	18.5	19.0	19.3	18.2	18.8	18.5	19.0	19.3
4H		18.7	19.2	19.0	19.5	19.8	18.6	19.2	19.0	19.4	19.7
6H		18.9	19.3	19.2	19.7	20.0	18.8	19.3	19.2	19.6	19.9
8H		18.9	19.3	19.2	19.6	20.0	18.8	19.2	19.2	19.6	19.9
12H		18.8	19.2	19.2	19.6	20.0	18.8	19.2	19.2	19.5	19.9
8H 4H		18.8	19.2	19.2	19.6	19.9	18.7	19.2	19.1	19.5	19.9
6H		19.0	19.4	19.4	19.8	20.2	19.0	19.3	19.4	19.7	20.1
8H		19.0	19.4	19.5	19.8	20.2	19.0	19.3	19.4	19.7	20.2
12H		19.0	19.3	19.5	19.7	20.2	18.9	19.2	19.4	19.7	20.1
12H 4H		18.7	19.1	19.1	19.5	19.9	18.7	19.1	19.1	19.5	19.9
6H		19.0	19.3	19.4	19.7	20.2	18.9	19.3	19.4	19.7	20.1
8H		19.0	19.3	19.5	19.7	20.2	19.0	19.2	19.4	19.7	20.1
Variations with the observer position at spacings:											
S = 1.0H		+ 0.2 / - 0.3					+ 0.2 / - 0.3				
1.5H		+ 0.2 / - 0.3					+ 0.3 / - 0.4				
2.0H		+ 0.3 / - 0.5					+ 0.4 / - 0.7				

CIE Pub.117, 2563 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
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 18D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

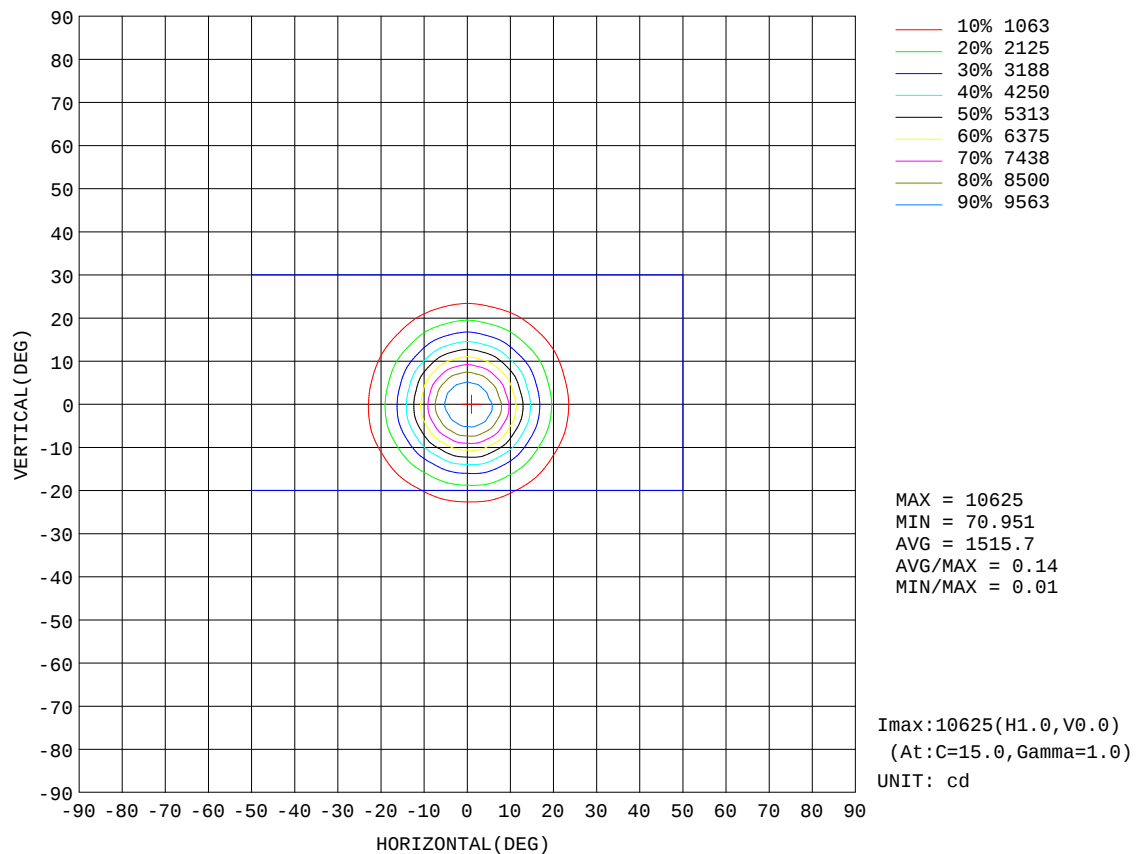
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	87	80	76	86	80	76	85	80	76	73
0.80	94	88	84	93	88	84	92	87	84	80
1.00	98	93	89	98	92	89	96	92	88	84
1.25	102	97	93	101	96	93	99	95	92	88
1.50	105	100	97	104	99	96	102	98	95	91
2.00	108	104	100	107	103	100	104	101	98	93
2.50	110	106	103	108	105	102	105	102	100	94
3.00	111	108	105	110	106	104	106	104	102	95
4.00	114	111	108	111	109	107	108	106	104	97
5.00	115	113	111	113	111	109	109	107	106	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 18D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

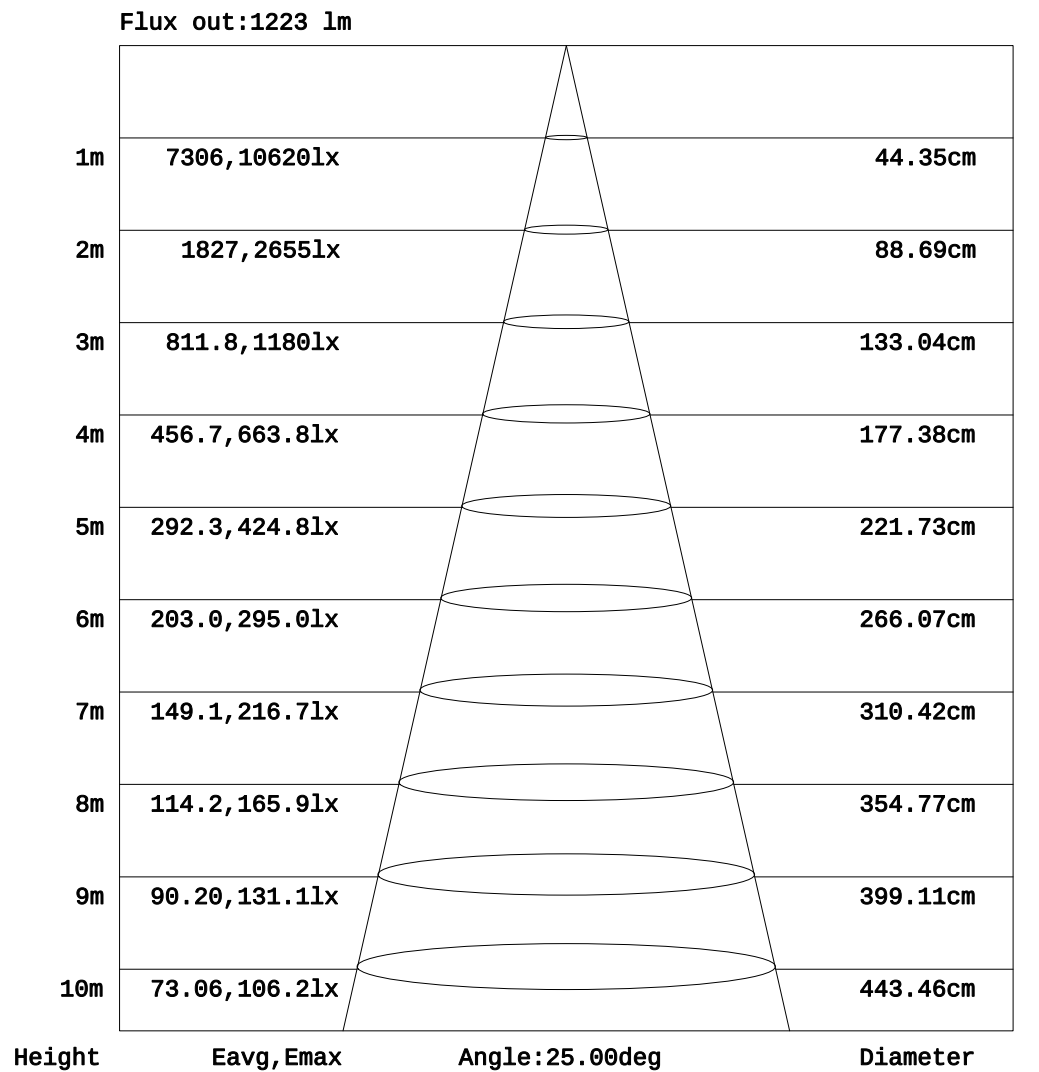


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: XYJ
Test Date: 2017-10-10

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 18D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



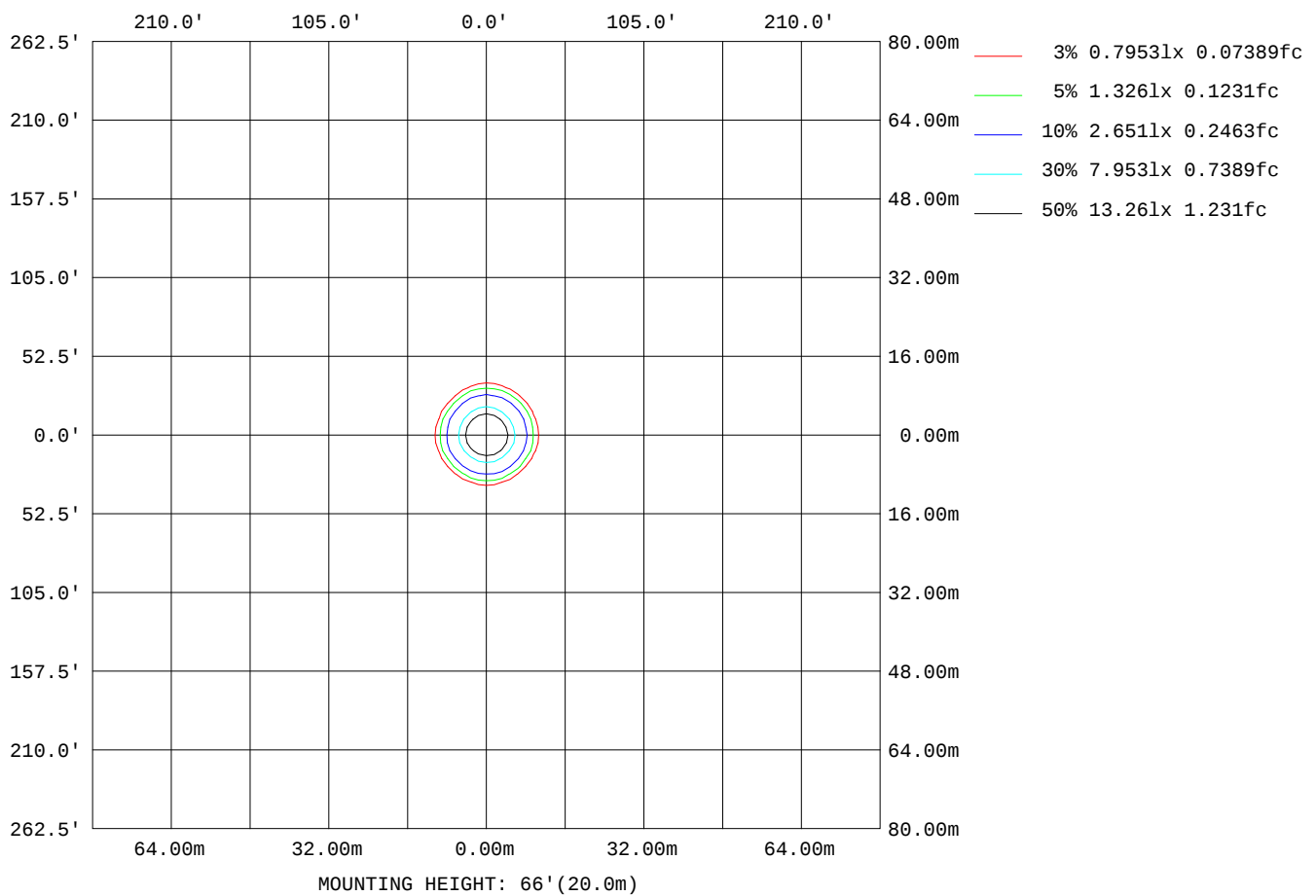
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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-TLO030-02	TYPE: track lights	WEIGHT: 1.2
SPEC.: 3000K CRI90 18D	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 18D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

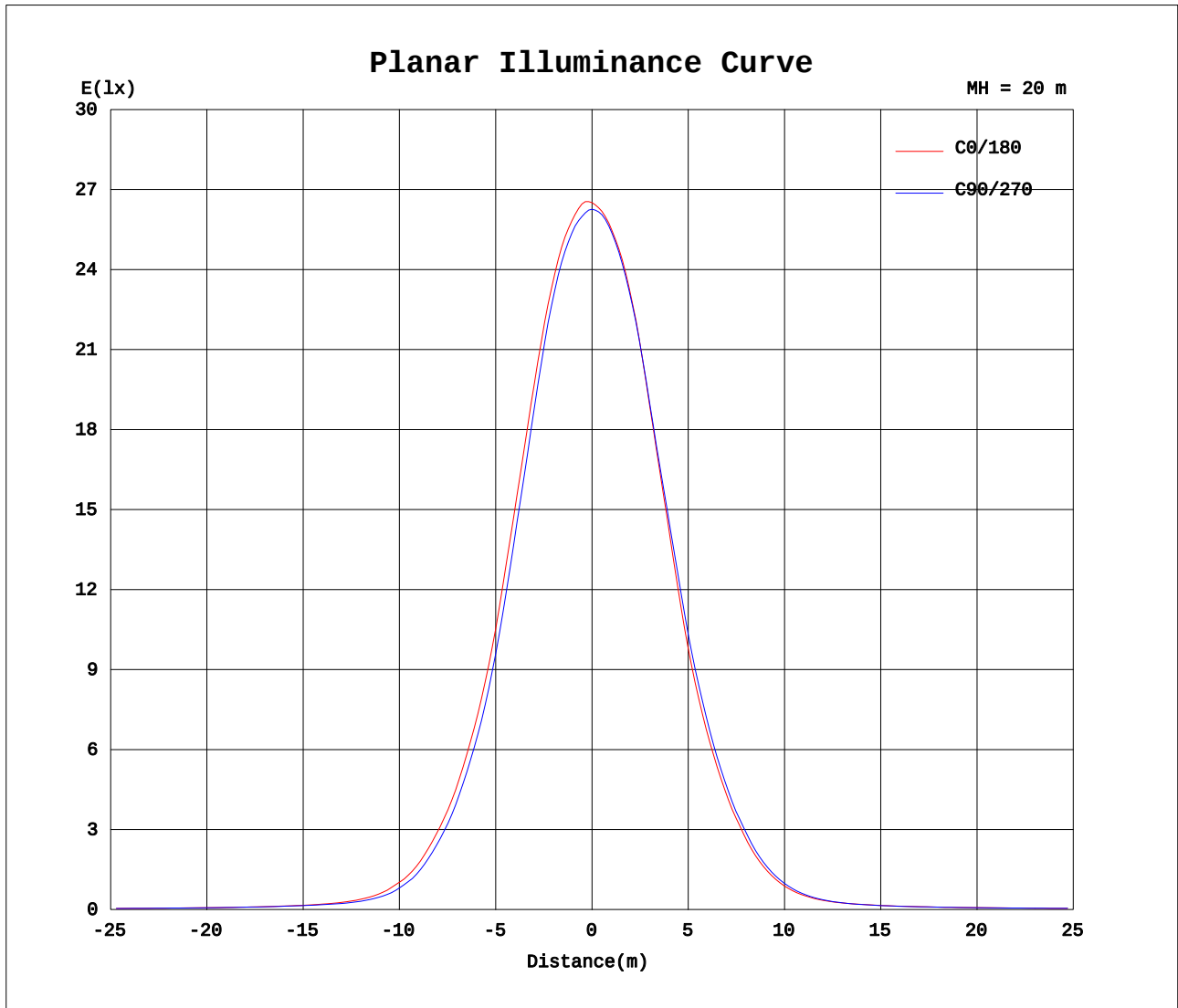
AvgL	cd/m2
L_0~180(65)av	34746
L_0~180(75)av	22879
L_0~180(85)av	6119
L_90~270(65)av	35107
L_90~270(75)av	23014
L_90~270(85)av	6080
L_45(65)av	34848
L_45(75)av	22968
L_45(85)av	6022

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-TL030-02	TYPE:track lights	WEIGHT:1.2
SPEC.:3000K CRI90 18D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

Table - -1

UNIT: $\times 10 \text{cd}$ [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 GO-2000B_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:5.190m [K=1.0000]
Remarks:

```

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: VN-TL030-02	TYPE:track lights	WEIGHT:1.2
SPEC.:3000K CRI90 18D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

Table- -2

UNIT: $\times 10\text{cd}$ [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:

```