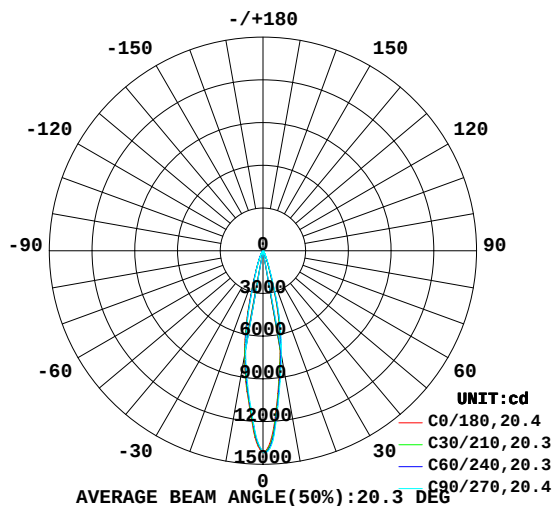


LUMINAIRE PHOTOMETRIC TEST REPORT

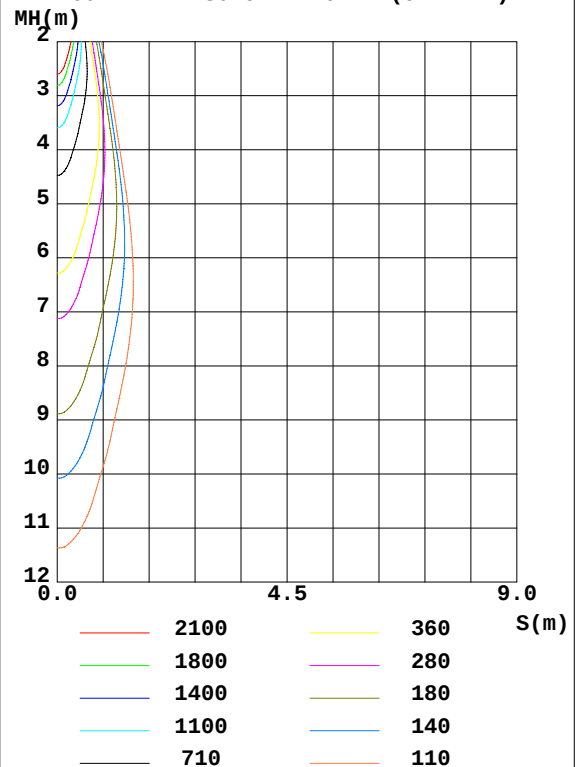
NAME: VN-TL0030-02	TYPE: track lights	WEIGHT: 1.2
SPEC.: 3000K CRI90 15D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 93.88 lm/W			
MODEL	CXM-14	Imax(cd)	14206	S/MH(C0/180)	0.36
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	0.34
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	2469.0	η UP, DN(C0-180)	0.0, 52.0
NOMINAL FLUX(lm)	2469.02	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 48.0
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

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT: lx)



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature: 28DEG
Operators: SYF
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: 5.300m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

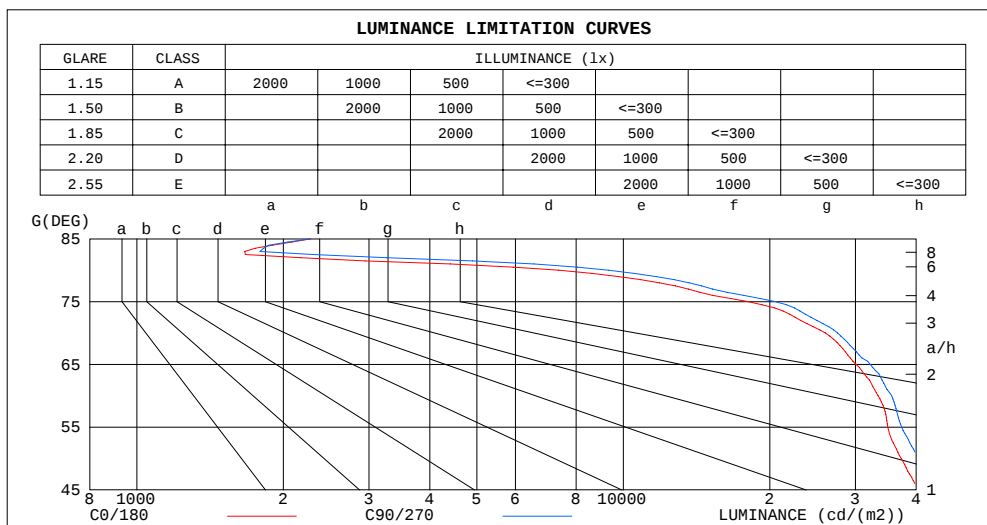
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	696.6	725.6	741.3	785.6	747.5	716.7	701.0	666.1	0- 10	930.8	930.8	37.7, 37.7
20	106.4	119.3	134.4	145.8	136.2	128.6	123.1	102.9	10- 20	967.1	1898	76.9, 76.9
30	21.06	24.35	27.85	28.83	26.73	29.50	28.23	22.73	20- 30	267.0	2165	87.7, 87.7
40	11.08	11.89	12.58	12.85	12.34	12.59	12.30	11.34	30- 40	105.4	2270	92, 92
50	7.657	8.033	8.336	8.414	8.289	8.298	8.215	7.609	40- 50	76.55	2347	95.1, 95.1
60	5.334	5.455	5.727	5.841	5.908	5.751	5.730	5.348	50- 60	61.08	2408	97.5, 97.5
70	2.844	2.939	3.033	3.246	3.152	3.049	2.973	2.760	60- 70	42.72	2451	99.3, 99.3
80	0.4090	0.4640	0.5205	0.6018	0.4885	0.4267	0.3727	0.2968	70- 80	17.22	2468	100, 100
90	0.0713	0.0712	0.0708	0.0682	0.0625	0.0626	0.0662	0.0659	80- 90	1.130	2469	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: $\times 10\text{cd}$									UNIT: lm		

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: MEDIUM
 Temperature: 28DEG
 Operators: SYF
 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: 5.300m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

NAME: VN-TL0030-02	TYPE: track lights	WEIGHT: 1.2
SPEC.: 3000K CRI90 15D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	2278	2270
80	7371	9316
75	18021	20490
70	26024	27563
65	30062	32169
60	33381	35602
55	34979	37360
50	37275	40310
45	40700	44749

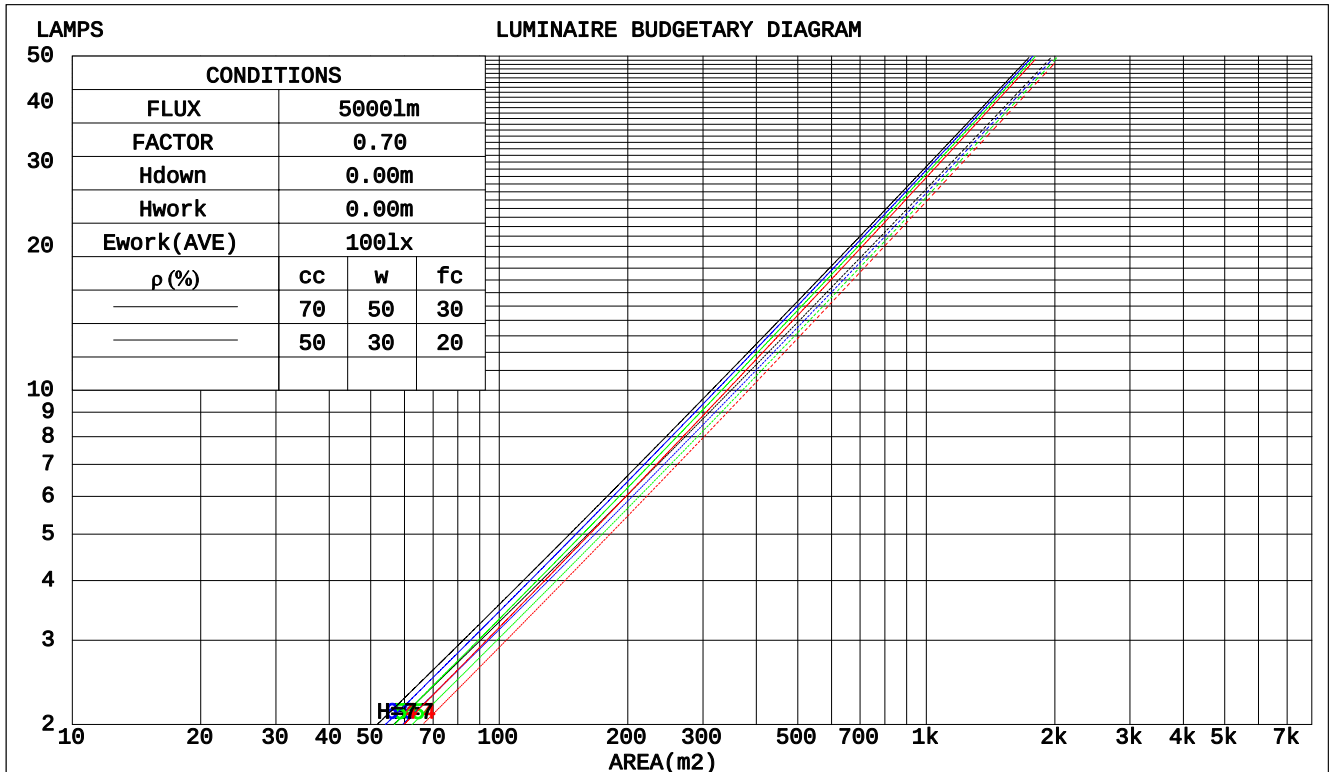
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: MEDIUM
 Temperature: 28DEG
 Operators: SYF
 Test Date: 2017-10-10

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.401
 Humidity: 65.0%
 Test Distance: 5.300m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: VN-TL0030-02	TYPE:track lights	WEIGHT:1.2
SPEC.:3000K CRI90 15D	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)															
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	1.07	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	.93	.90	.93	.91	.89	.88
4.0	.97	.93	.89	.96	.92	.89	.94	.90	.88	.92	.89	.87	.90	.88	.86	.84
5.0	.93	.89	.85	.92	.88	.85	.91	.87	.84	.89	.86	.83	.88	.85	.83	.82
6.0	.90	.85	.82	.89	.85	.82	.88	.84	.81	.86	.83	.81	.85	.82	.80	.79
7.0	.87	.82	.79	.86	.82	.79	.85	.81	.78	.84	.81	.78	.83	.80	.78	.77
8.0	.84	.80	.77	.83	.79	.76	.83	.79	.76	.82	.78	.76	.81	.78	.76	.75
9.0	.82	.77	.74	.81	.77	.74	.80	.77	.74	.80	.76	.74	.79	.76	.74	.73
10.0	.79	.75	.72	.79	.75	.72	.78	.75	.72	.78	.74	.72	.77	.74	.72	.71



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature:28DEG
Operators:SYF
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:5.300m [K=1.0000]
Remarks:

WEC AND CCEC

NAME: VN-TL0030-02	TYPE:track lights	WEIGHT:1.2
SPEC.:3000K CRI90 15D	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	.150	.085	.027	.143	.082	.026	.131	.075	.024	.119	.069	.022	.109	.063	.020		
2.0	.140	.077	.024	.134	.074	.023	.124	.069	.021	.114	.064	.020	.106	.060	.019		
3.0	.130	.069	.021	.125	.067	.020	.117	.063	.019	.109	.060	.018	.101	.056	.017		
4.0	.121	.063	.019	.117	.061	.018	.110	.058	.017	.103	.055	.017	.097	.053	.016		
5.0	.114	.058	.017	.110	.057	.016	.104	.054	.016	.098	.052	.015	.093	.050	.015		
6.0	.107	.054	.015	.104	.052	.015	.099	.050	.015	.093	.049	.014	.089	.047	.014		
7.0	.101	.050	.014	.098	.049	.014	.094	.047	.014	.089	.046	.013	.085	.044	.013		
8.0	.095	.047	.013	.093	.046	.013	.089	.045	.013	.085	.043	.012	.082	.042	.012		
9.0	.091	.044	.012	.089	.043	.012	.085	.042	.012	.082	.041	.012	.078	.040	.012		
10.0	.086	.041	.011	.085	.041	.011	.081	.040	.011	.078	.039	.011	.075	.038	.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	.169	.158	.147	.145	.135	.127	.099	.093	.088	.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	.082	.081	.068	.057	.047	.040	.034	.015	.013	.011	
4.0	.125	.098	.077	.108	.085	.067	.074	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.115	.086	.065	.099	.074	.056	.068	.052	.040	.039	.030	.024	.013	.010	.008	
6.0	.106	.076	.055	.091	.066	.047	.063	.046	.034	.036	.027	.020	.012	.009	.007	
7.0	.098	.068	.047	.085	.059	.041	.058	.041	.029	.034	.024	.017	.011	.008	.006	
8.0	.092	.061	.040	.079	.053	.035	.055	.037	.025	.032	.022	.015	.010	.007	.005	
9.0	.086	.056	.035	.074	.048	.031	.051	.034	.022	.030	.020	.013	.010	.007	.004	
10.0	.081	.051	.031	.070	.044	.027	.048	.031	.019	.028	.018	.011	.009	.006	.004	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: MEDIUM
 Temperature:28DEG
 Operators:SYF
 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:5.300m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

NAME: VN-TL0030-02						TYPE:track lights			WEIGHT:1.2		
SPEC.:3000K CRI90 15D						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		19.0	19.7	19.2	19.8	20.0	19.4	20.1	19.6	20.3	20.4
3H		20.1	20.8	20.3	21.0	21.1	20.5	21.2	20.8	21.4	21.6
4H		20.4	21.0	20.7	21.2	21.4	20.8	21.5	21.1	21.7	21.9
6H		20.4	21.0	20.7	21.3	21.5	20.9	21.5	21.2	21.7	22.0
8H		20.4	21.0	20.7	21.2	21.5	20.9	21.4	21.1	21.7	21.9
12H		20.3	20.9	20.7	21.2	21.4	20.8	21.4	21.1	21.6	21.9
4H 2H		19.5	20.2	19.8	20.4	20.6	19.9	20.5	20.2	20.7	20.9
3H		20.8	21.4	21.1	21.6	21.9	21.1	21.7	21.5	22.0	22.2
4H		21.1	21.6	21.5	21.9	22.2	21.5	22.0	21.8	22.3	22.6
6H		21.2	21.6	21.6	22.0	22.3	21.6	22.0	21.9	22.4	22.7
8H		21.1	21.6	21.5	21.9	22.3	21.5	22.0	21.9	22.3	22.7
12H		21.1	21.5	21.5	21.8	22.2	21.5	21.9	21.9	22.2	22.6
8H 4H		21.2	21.6	21.6	22.0	22.3	21.5	22.0	21.9	22.3	22.7
6H		21.3	21.6	21.7	22.0	22.4	21.6	22.0	22.1	22.4	22.8
8H		21.2	21.5	21.6	21.9	22.4	21.6	21.9	22.0	22.3	22.7
12H		21.1	21.4	21.6	21.9	22.3	21.5	21.8	22.0	22.2	22.7
12H 4H		21.2	21.5	21.6	21.9	22.3	21.5	21.9	21.9	22.3	22.6
6H		21.2	21.5	21.7	21.9	22.4	21.6	21.9	22.0	22.3	22.7
8H		21.2	21.4	21.6	21.9	22.3	21.5	21.8	22.0	22.2	22.7
Variations with the observer position at spacings:											
S = 1.0H		+ 0.3 / - 0.4					+ 0.3 / - 0.5				
1.5H		+ 0.1 / - 0.3					+ 0.1 / - 0.3				
2.0H		+ 0.4 / - 0.4					+ 0.5 / - 0.6				

CIE Pub.117, 2469 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 3.1$)

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature:28DEG
Operators:SYF
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:5.300m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

NAME: VN-TL0030-02	TYPE: track lights	WEIGHT: 1.2
SPEC.: 3000K CRI90 15D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

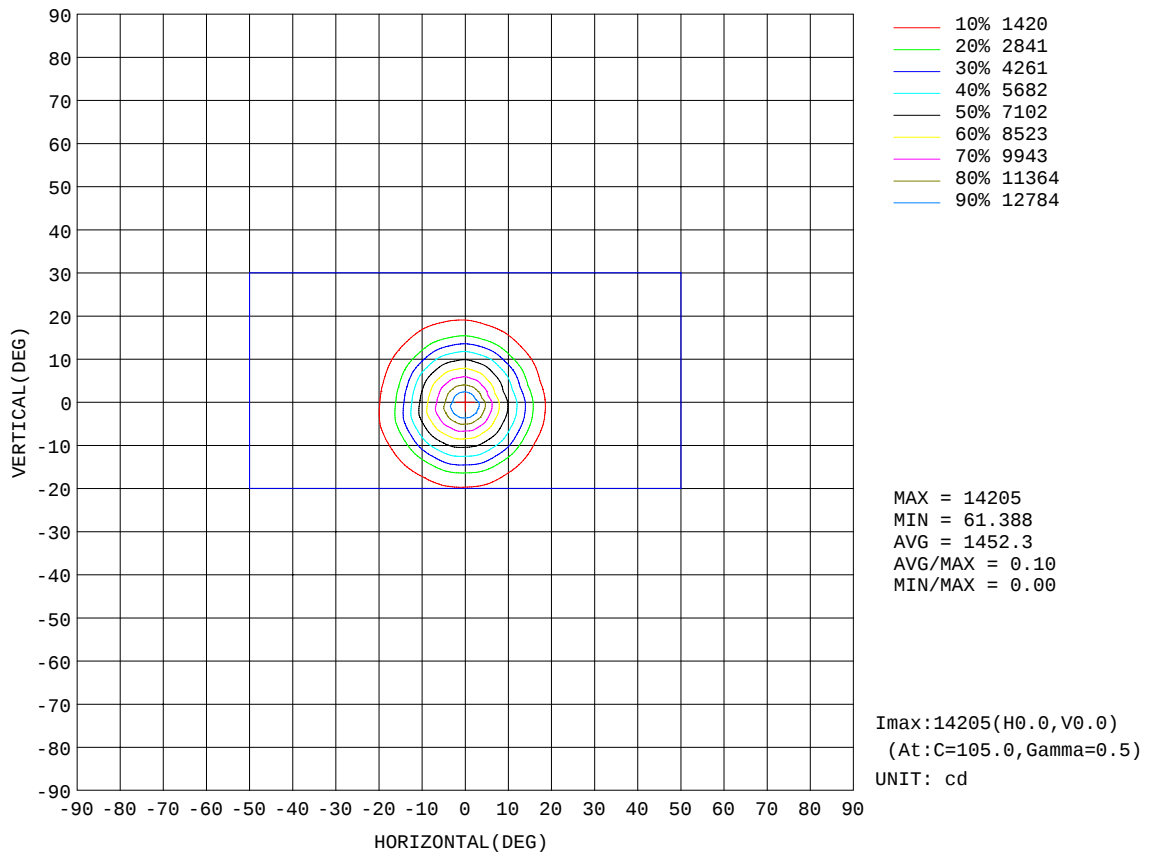
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	87	80	76	86	80	76	85	80	76	72
0.80	94	88	84	93	88	84	92	87	84	80
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	100	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: 28DEG
 Operators: SYF
 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: 5.300m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

NAME: VN-TL0030-02	TYPE: track lights	WEIGHT: 1.2
SPEC.: 3000K CRI90 15D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

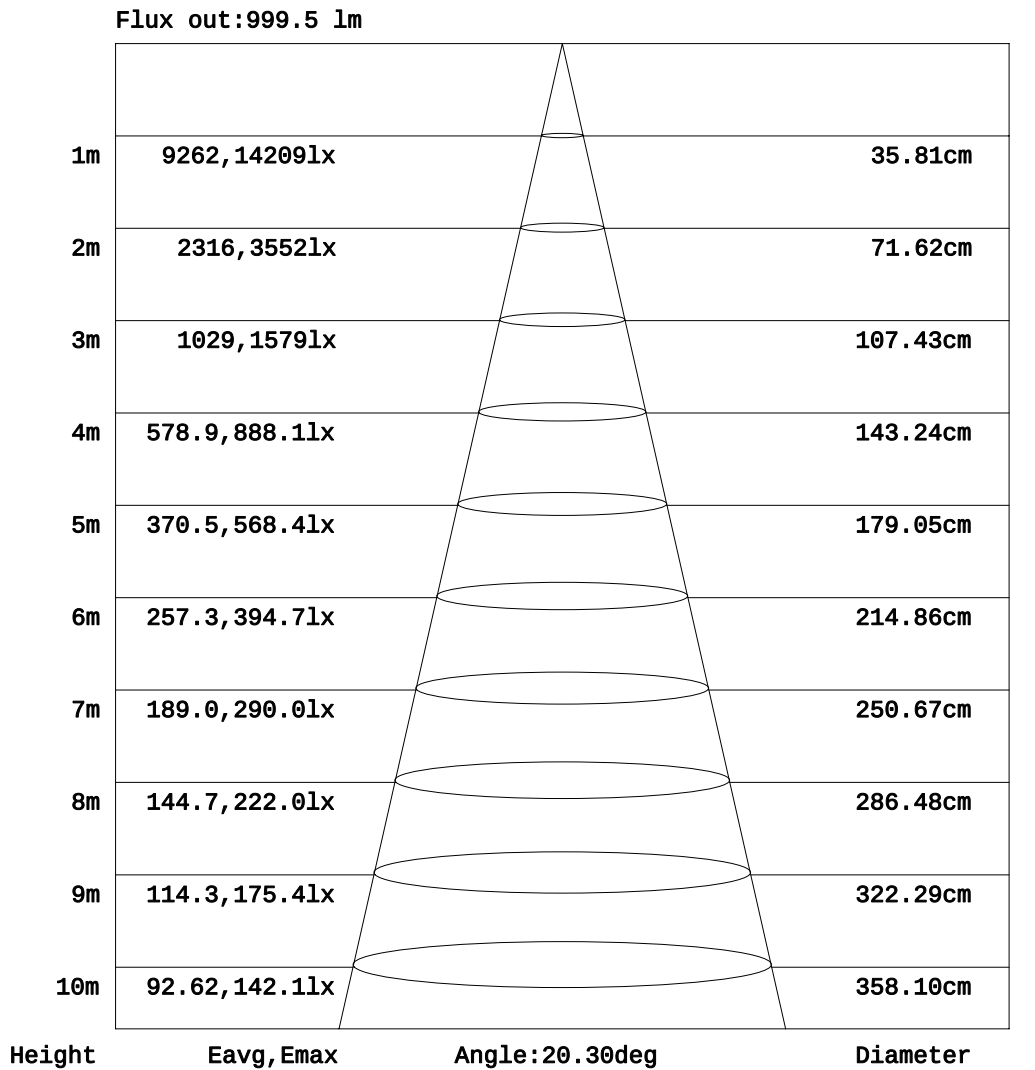


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature: 28DEG
Operators: SYF
Test Date: 2017-10-10

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.401
Humidity: 65.0%
Test Distance: 5.300m [K=1.0000]
Remarks:

AAI Figure

NAME: VN-TL0030-02	TYPE: track lights	WEIGHT: 1.2
SPEC.: 3000K CRI90 15D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



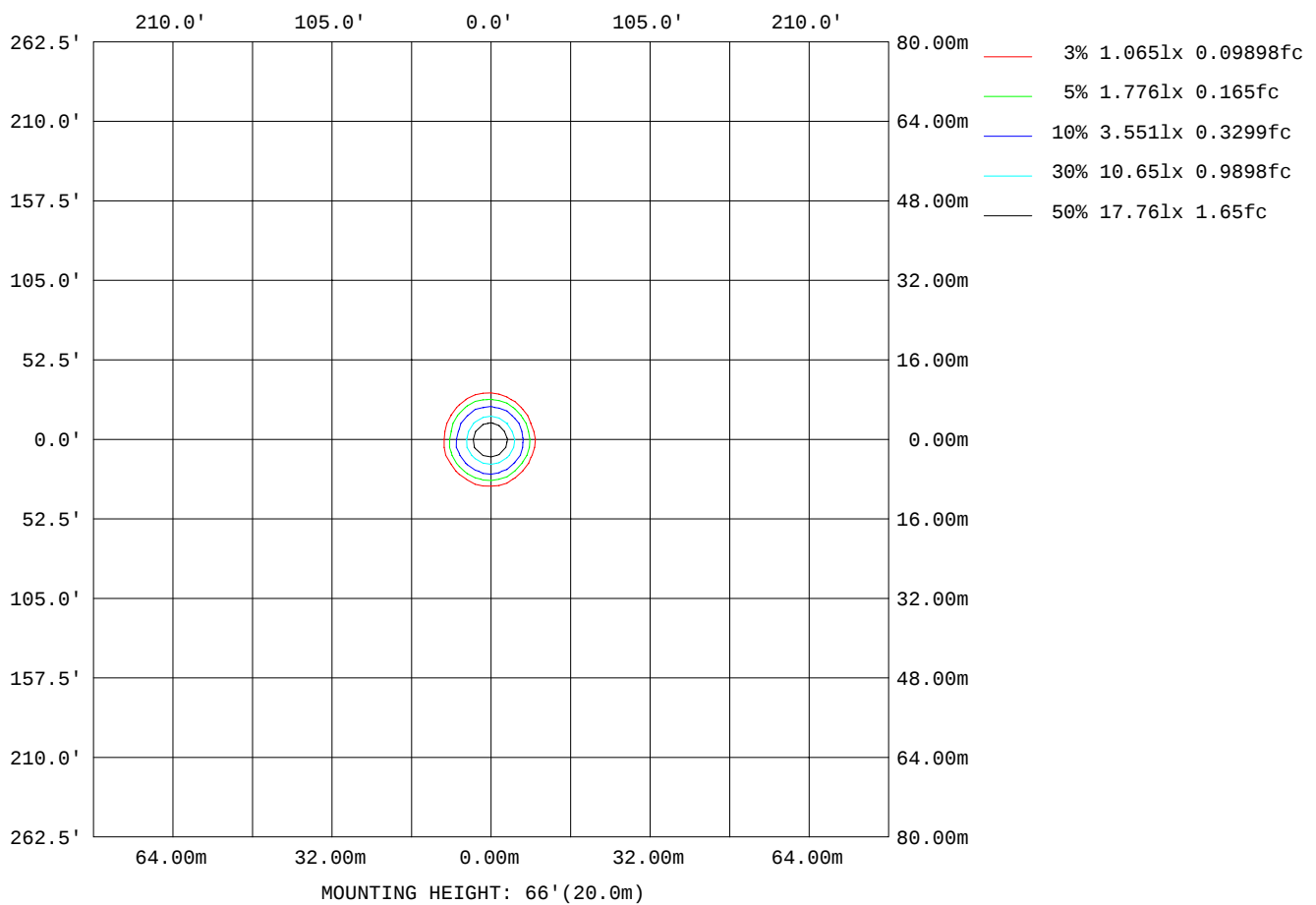
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature: 28DEG
Operators: SYF
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: 5.300m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

NAME: VN-TL0030-02	TYPE: track lights	WEIGHT: 1.2
SPEC.: 3000K CRI90 15D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature: 28DEG
Operators: SYF
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: 5.300m [K=1.0000]
Remarks:

LED Avg.L Report

NAME: VN-TL0030-02	TYPE: track lights	WEIGHT: 1.2
SPEC.: 3000K CRI90 15D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

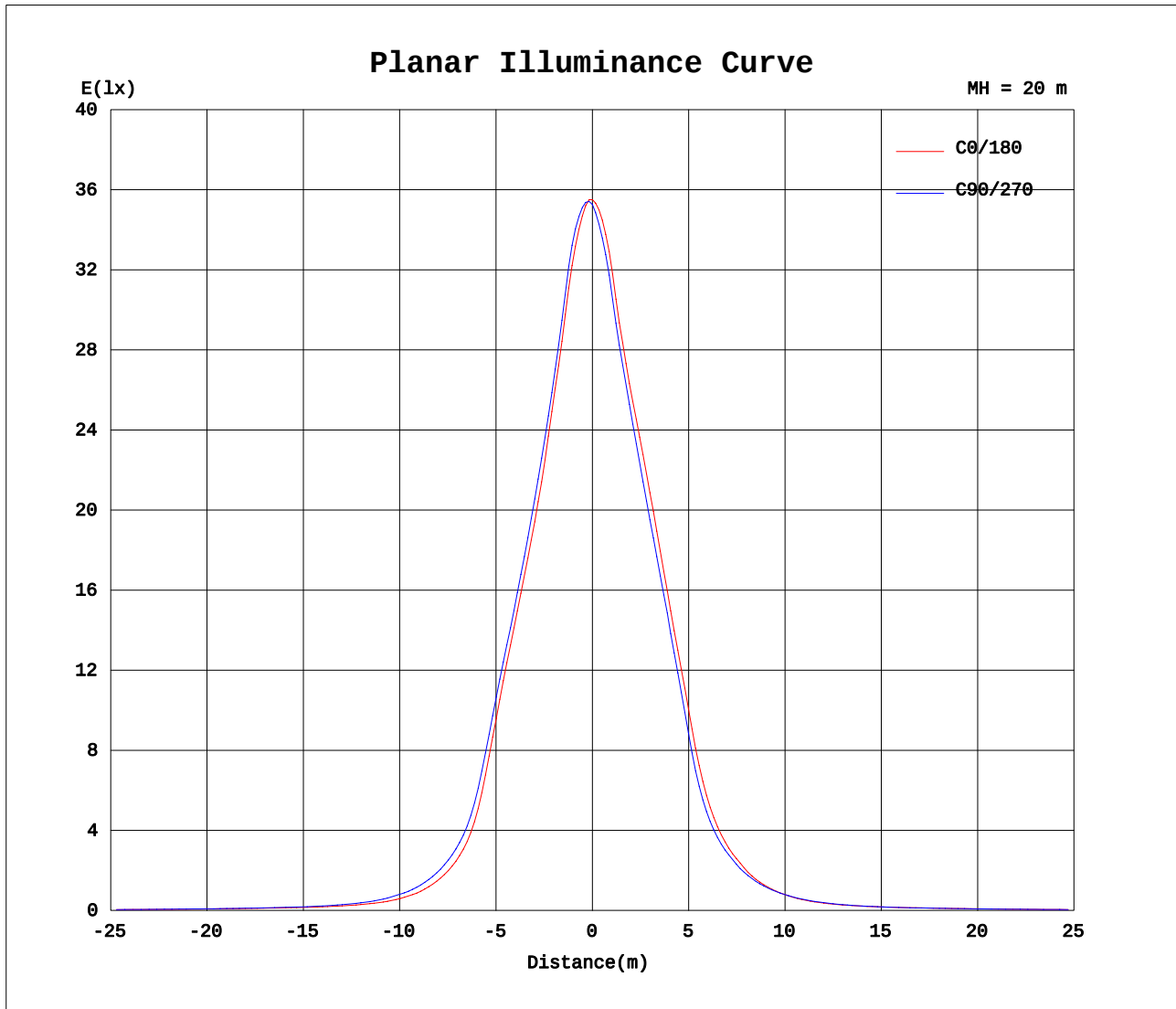
AvgL	cd/m2
L_0~180(65)av	31503
L_0~180(75)av	19171
L_0~180(85)av	2076
L_90~270(65)av	32002
L_90~270(75)av	19228
L_90~270(85)av	2184
L_45(65)av	31793
L_45(75)av	19228
L_45(85)av	2126

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature: 28DEG
Operators: SYF
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: 5.300m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: MEDIUM
 Temperature: 28DEG
 Operators: SYF
 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: 5.300m [K=1.0000]
 Remarks:

```

Range: 0 - 90DEG
Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:5.300m [K=1.0000]
Remarks:

```

```

Range: 0 - 90DEG
Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:5.300m [K=1.0000]
Remarks:

```