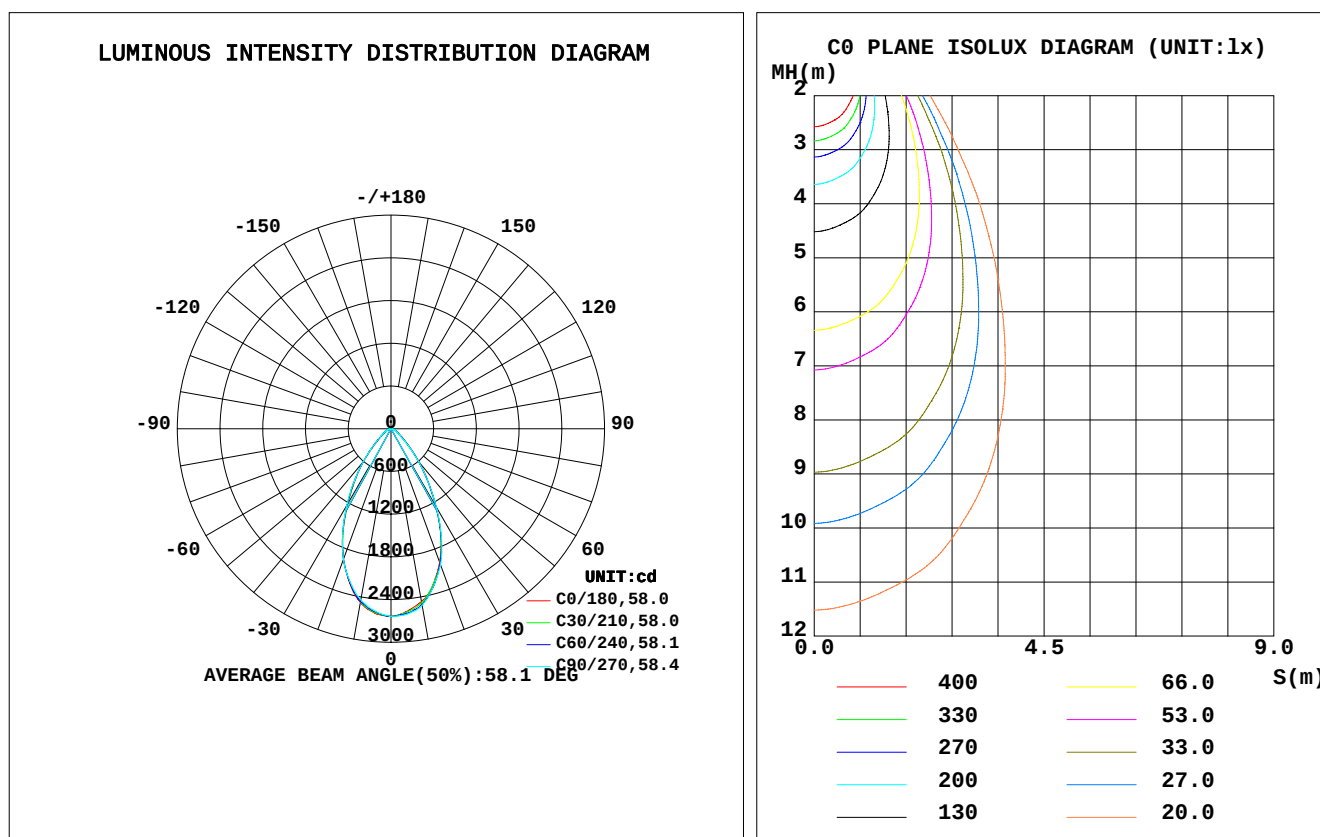


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: LED	TYPE: track lights	WEIGHT: 1.1
SPEC.: VN-TLO030-01 3000K CRI80	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 99.55 lm/W
MODEL		Imax(cd)	2638	S/MH(C0/180)	0.87	
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	0.87	
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	2741.9	η UP, DN(C0-180)	0.0, 50.5	
NOMINAL FLUX(lm)	2741.89	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 49.5	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75	
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.95	



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	2465	2506	2520	2513	2475	2462	2440	2435	0- 10	243.7	243.7	8.89, 8.89
20	1998	2026	2035	2030	1950	1941	1953	1941	10- 20	630.8	874.6	31.9, 31.9
30	1273	1274	1277	1274	1210	1211	1243	1237	20- 30	741.8	1616	59, 59
40	622.3	615.7	607.5	621.2	598.6	599.8	610.0	600.6	30- 40	563.7	2180	79.5, 79.5
50	240.3	225.9	210.3	212.5	211.7	226.8	241.8	242.3	40- 50	297.9	2478	90.4, 90.4
60	106.9	105.9	101.4	103.0	103.0	104.1	107.1	107.5	50- 60	137.4	2615	95.4, 95.4
70	57.47	56.80	55.71	56.33	55.47	55.49	56.71	55.67	60- 70	78.09	2693	98.2, 98.2
80	19.59	20.48	21.31	21.92	20.29	19.34	18.26	17.25	70- 80	38.30	2732	99.6, 99.6
90	1.106	1.139	1.153	1.156	0.9500	0.9207	0.9246	0.9165	80- 90	10.14	2742	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		

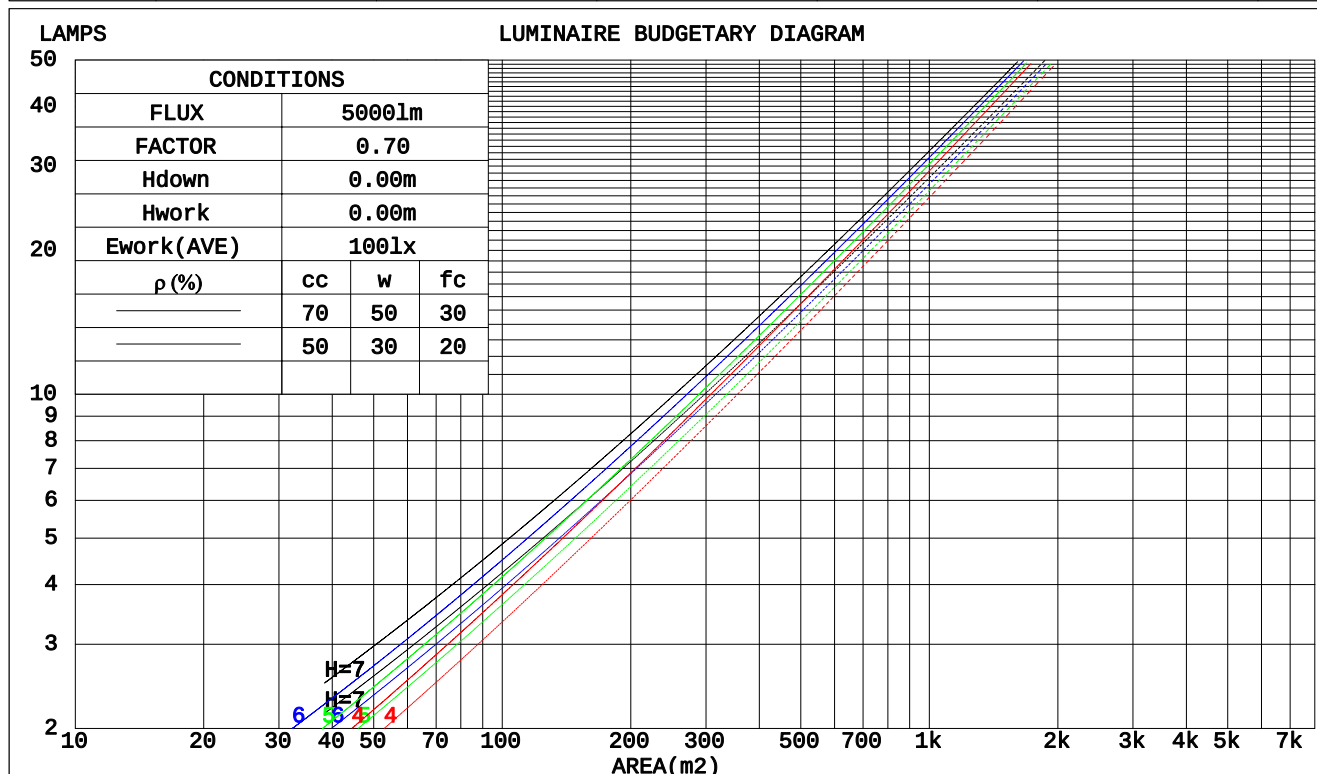
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: MEDIUM
 Temperature: 28DEG
 Operators: SYF
 Test Date: 2017-10-10

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: LED	TYPE:track lights	WEIGHT:1.1
SPEC.: VN-TLO030-01 3000K CRI80	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															



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: LED	TYPE:track lights	WEIGHT:1.1
SPEC.: VN-TLO030-01 3000K CRI80	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	.208	.118	.037	.201	.115	.036	.188	.108	.034	.176	.102	.033	.166	.096	.031		
2.0	.199	.109	.033	.193	.106	.033	.182	.101	.031	.172	.097	.030	.163	.092	.029		
3.0	.188	.100	.030	.183	.098	.030	.174	.094	.029	.165	.091	.028	.157	.087	.027		
4.0	.178	.093	.027	.174	.091	.027	.166	.088	.026	.158	.085	.026	.151	.082	.025		
5.0	.169	.086	.025	.165	.085	.025	.158	.082	.024	.151	.080	.024	.145	.077	.023		
6.0	.160	.080	.023	.156	.079	.023	.150	.077	.022	.144	.075	.022	.139	.073	.022		
7.0	.151	.075	.021	.148	.074	.021	.143	.072	.021	.138	.071	.021	.133	.069	.020		
8.0	.144	.070	.020	.141	.070	.020	.136	.068	.019	.132	.067	.019	.127	.065	.019		
9.0	.137	.066	.019	.135	.066	.018	.130	.064	.018	.126	.063	.018	.122	.062	.018		
10.0	.131	.063	.017	.129	.062	.017	.125	.061	.017	.121	.060	.017	.117	.059	.017		

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	.173	.157	.142	.148	.135	.123	.101	.093	.085	.058	.054	.049	.019	.017	.016		
2.0	.160	.132	.109	.137	.114	.094	.094	.079	.066	.054	.046	.039	.017	.015	.013		
3.0	.149	.114	.086	.128	.098	.074	.088	.068	.052	.051	.040	.031	.016	.013	.010		
4.0	.139	.099	.069	.120	.086	.060	.082	.060	.042	.048	.035	.025	.015	.011	.008		
5.0	.131	.088	.056	.113	.076	.049	.078	.053	.035	.045	.031	.021	.014	.010	.007		
6.0	.124	.079	.047	.107	.069	.041	.073	.048	.029	.043	.028	.017	.014	.009	.006		
7.0	.118	.072	.040	.101	.062	.035	.070	.044	.024	.041	.026	.015	.013	.008	.005		
8.0	.112	.066	.034	.096	.057	.030	.067	.040	.021	.039	.024	.013	.013	.008	.004		
9.0	.106	.061	.030	.092	.053	.026	.064	.037	.018	.037	.022	.011	.012	.007	.004		
10.0	.102	.056	.026	.088	.049	.023	.061	.034	.016	.035	.020	.010	.012	.007	.003		

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: LED					TYPE:track lights			WEIGHT:1.1			
SPEC.: VN-TLo030-01 3000K CRI80					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	2H	27.4	28.5	27.7	28.7	28.9	27.2	28.3	27.4	28.5	28.6
	3H	27.8	28.8	28.1	29.0	29.2	27.5	28.5	27.8	28.8	29.0
	4H	27.9	28.9	28.2	29.1	29.3	27.7	28.6	28.0	28.9	29.1
	6H	28.0	28.9	28.3	29.1	29.4	27.8	28.7	28.1	28.9	29.2
	8H	28.0	28.9	28.3	29.1	29.4	27.8	28.7	28.1	28.9	29.2
	12H	28.0	28.8	28.3	29.1	29.4	27.8	28.6	28.1	28.9	29.2
4H	2H	27.5	28.4	27.8	28.6	28.9	27.2	28.2	27.5	28.4	28.6
	3H	28.0	28.8	28.3	29.1	29.4	27.7	28.6	28.1	28.8	29.1
	4H	28.2	28.9	28.5	29.2	29.5	28.0	28.7	28.3	29.0	29.3
	6H	28.3	29.0	28.7	29.3	29.7	28.2	28.8	28.5	29.2	29.5
	8H	28.4	29.0	28.8	29.3	29.7	28.2	28.8	28.6	29.2	29.6
	12H	28.4	28.9	28.8	29.3	29.7	28.3	28.8	28.7	29.2	29.6
8H	4H	28.2	28.8	28.6	29.2	29.5	28.0	28.6	28.4	29.0	29.4
	6H	28.4	28.9	28.8	29.3	29.7	28.3	28.8	28.7	29.2	29.6
	8H	28.5	28.9	28.9	29.4	29.8	28.4	28.8	28.8	29.2	29.7
	12H	28.5	28.9	29.0	29.4	29.8	28.5	28.9	28.9	29.3	29.8
12H	4H	28.2	28.7	28.6	29.1	29.5	28.0	28.5	28.4	28.9	29.3
	6H	28.4	28.9	28.9	29.3	29.7	28.3	28.7	28.7	29.1	29.6
	8H	28.5	28.9	29.0	29.3	29.8	28.4	28.8	28.9	29.2	29.7
Variations with the observer position at spacings:											
S = 1.0H		+ 1.2 / - 1.7					+ 1.2 / - 1.7				
1.5H		+ 2.0 / - 1.5					+ 2.0 / - 1.5				
2.0H		+ 2.4 / - 1.3					+ 2.2 / - 1.1				

CIE Pub.117, 2742 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 3.5$)

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:

UTILIZATION FACTORS TABLE

NAME: LED	TYPE: track lights	WEIGHT: 1.1
SPEC.: VN-TLO030-01 3000K CRI80	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

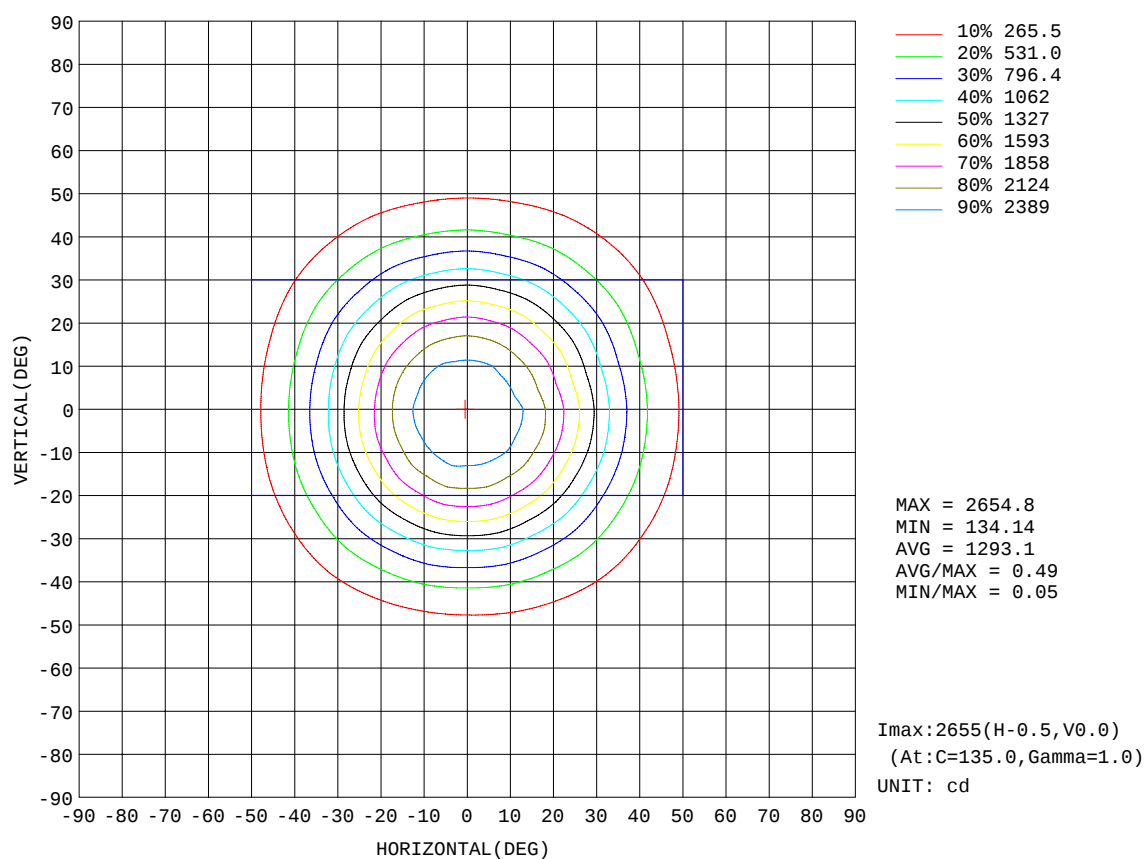
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	79	71	66	78	71	66	77	70	66	61
0.80	87	80	75	86	79	75	85	79	74	70
1.00	93	86	81	92	86	81	90	86	81	76
1.25	98	91	87	97	91	87	95	90	86	81
1.50	101	95	91	100	95	91	98	93	90	84
2.00	105	100	96	104	99	95	101	97	94	88
2.50	107	103	99	106	101	98	102	99	96	90
3.00	109	105	102	108	104	101	104	101	99	92
4.00	112	108	106	110	107	104	106	104	102	94
5.00	113	110	108	111	109	106	107	105	103	95
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: LED	TYPE: track lights	WEIGHT: 1.1
SPEC.: VN-TLO030-01 3000K CRI80	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

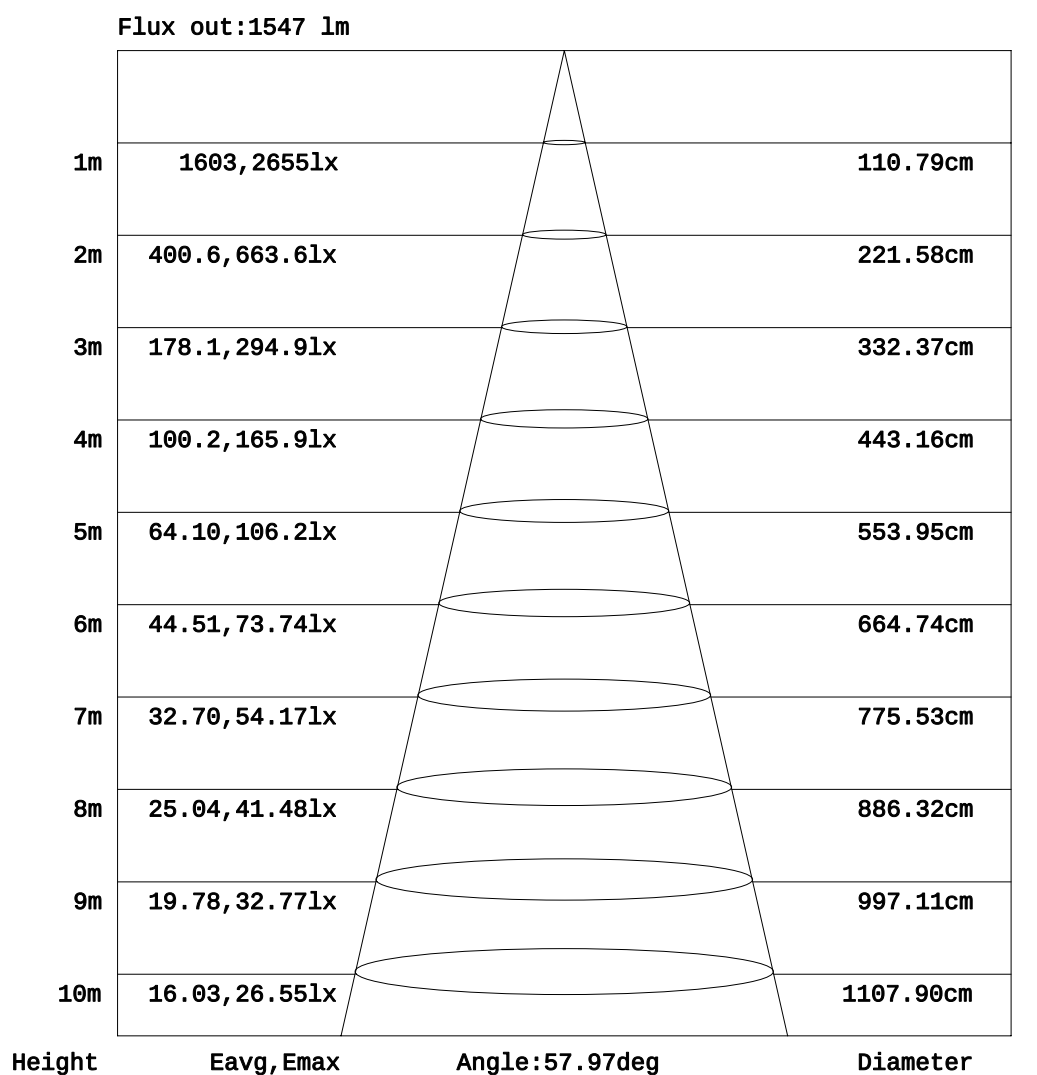


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: MEDIUM
Temperature: 28DEG
Operators: SYF
Test Date: 2017-10-10

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: LED	TYPE: track lights	WEIGHT: 1.1
SPEC.: VN-TLO030-01 3000K CRI80	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



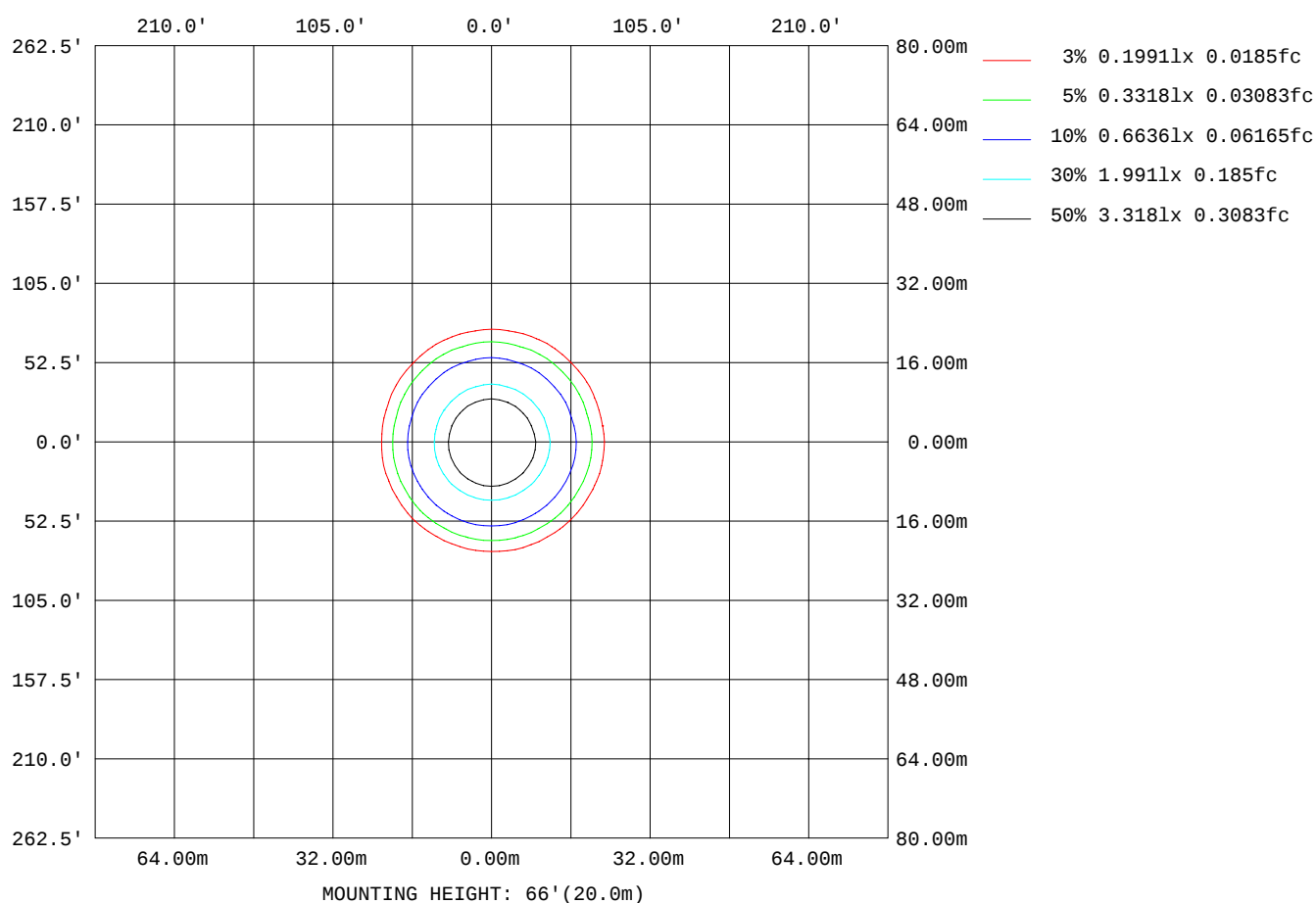
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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: LED	TYPE: track lights	WEIGHT: 1.1
SPEC.: VN-TLO030-01 3000K CRI80	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: LED	TYPE: track lights	WEIGHT: 1.1
SPEC.: VN-TLO030-01 3000K CRI80	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

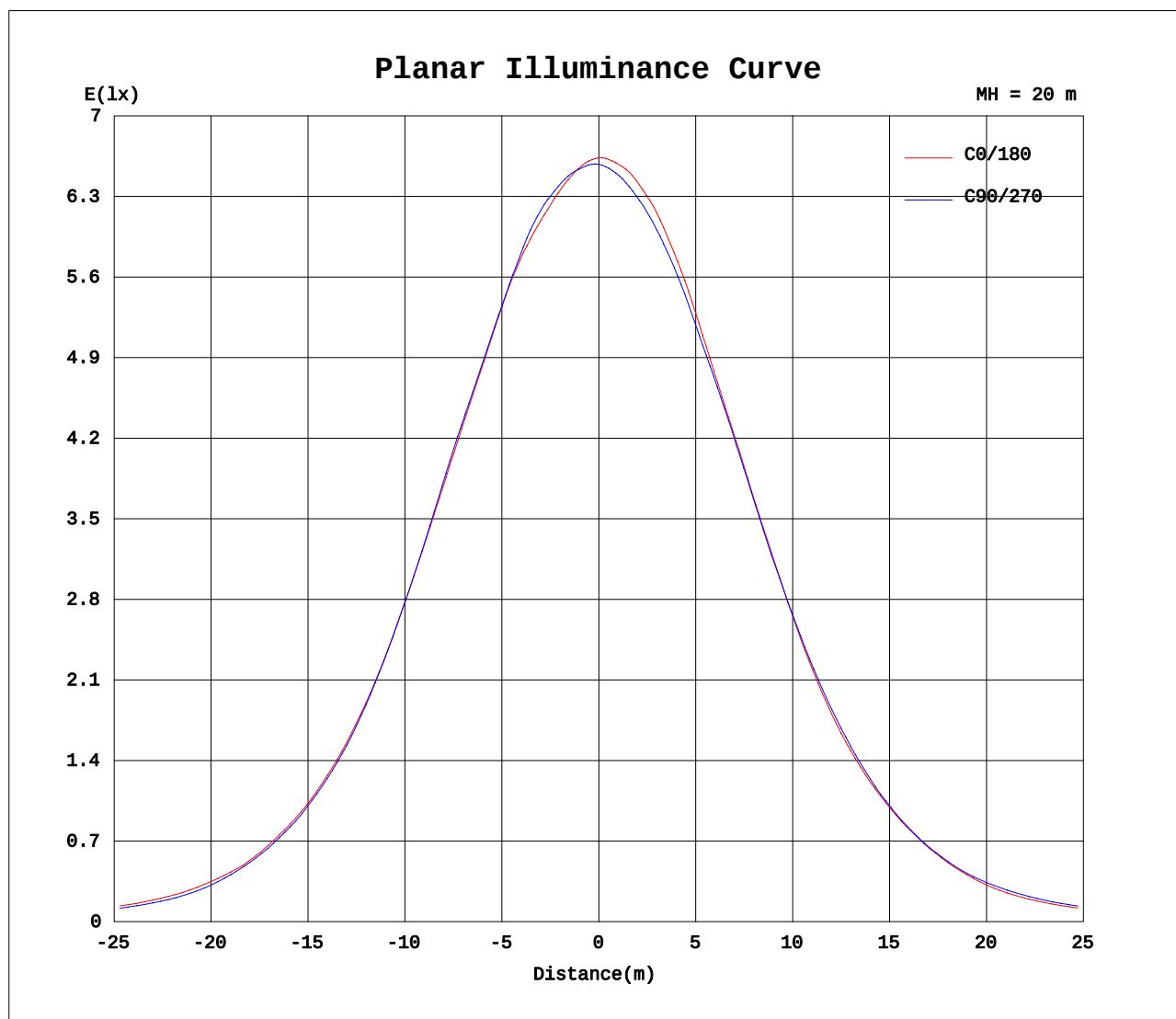
AvgL	cd/m2
L_0~180(65)av	70686
L_0~180(75)av	51728
L_0~180(85)av	23303
L_90~270(65)av	70064
L_90~270(75)av	52017
L_90~270(85)av	40508
L_45(65)av	70360
L_45(75)av	51625
L_45(85)av	41555

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:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: LED	TYPE:track lights	WEIGHT:1.1
SPEC.: VN-TLO030-01 3000K CRI80	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:28DEG
Operators:SYF
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:5.300m [K=1.0000]
Remarks:

```

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: LED	TYPE:track lights	WEIGHT:1.1
SPEC.: VN-TLO030-01 3000K CRI80	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: 28DEG
Operators: SYF
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:5.300m [K=1.0000]
Remarks:

```