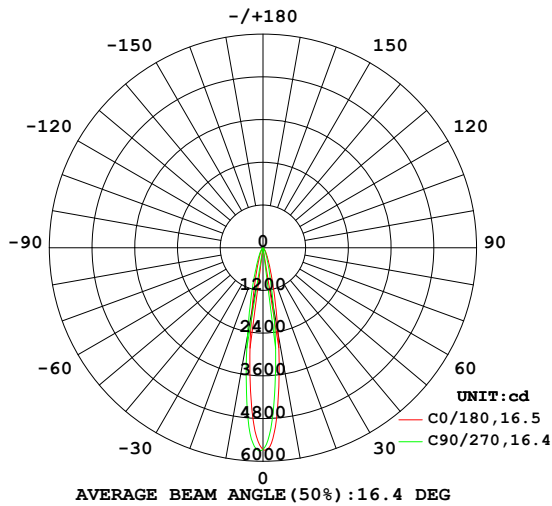


LUMINAIRE PHOTOMETRIC TEST REPORT

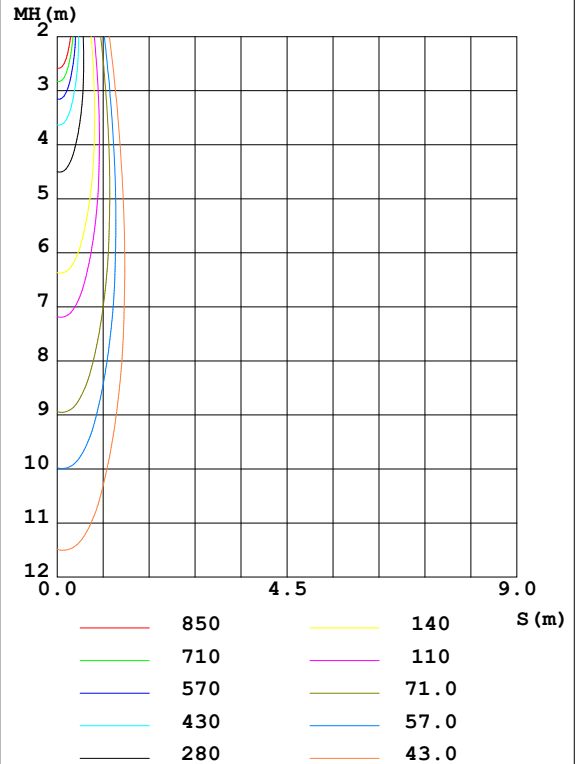
NAME: VN-TLO010-21	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:CRI90 3000K 12D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 83.47 lm/W
MODEL	CXM-9-AA10	Imax (cd)	5710	S/MH (C0/180)	0.26	
NOMINAL POWER (W)	10	LOR (%)	100.0	S/MH (C90/270)	0.32	
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	846.32	η UP, DN (C0-180)	0.0, 46.1	
NOMINAL FLUX (lm)	846.323	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 53.9	
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: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2019-7-31

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

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

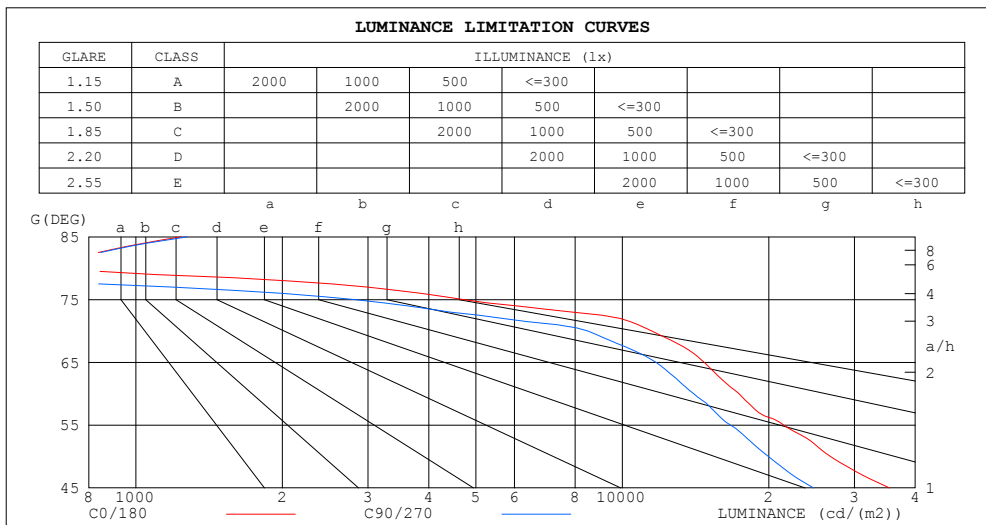
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2451	1983	1693	1644	1777	2156	2536	2665	0- 10	338.5	338.5	40,40
20	528.9	404.7	341.3	339.0	340.2	412.5	525.8	613.9	10- 20	267.7	606.2	71.6,71.6
30	184.5	149.0	121.9	121.2	119.3	143.5	177.2	218.3	20- 30	118.7	724.9	85.6,85.6
40	70.92	57.06	47.26	46.30	45.85	53.58	66.15	82.08	30- 40	60.67	785.5	92.8,92.8
50	31.12	26.69	23.24	23.04	23.33	26.48	29.99	33.89	40- 50	30.46	816.0	96.4,96.4
60	15.70	14.12	12.70	11.99	11.94	13.72	15.40	16.78	50- 60	17.82	833.8	98.5,98.5
70	7.104	6.016	5.255	4.976	5.130	5.946	6.972	7.579	60- 70	9.862	843.7	99.7,99.7
80	0.2197	0.1970	0.2014	0.2033	0.1788	0.1658	0.1854	0.2327	70- 80	2.422	846.1	100,100
90	0.1986	0.2079	0.2101	0.2165	0.2163	0.2057	0.2057	0.1856	80- 90	0.2097	846.3	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: 22.5DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:XYJ
 Test Date:2019-7-31

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

LUMINANCE LIMITATION CURVES

NAME: VN-TLO010-21	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:CRI90 3000K 12D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1239	1275
80	700	640
75	4711	2815
70	11492	8483
65	14725	11722
60	17375	14020
55	21460	16677
50	26782	19962
45	35449	24735

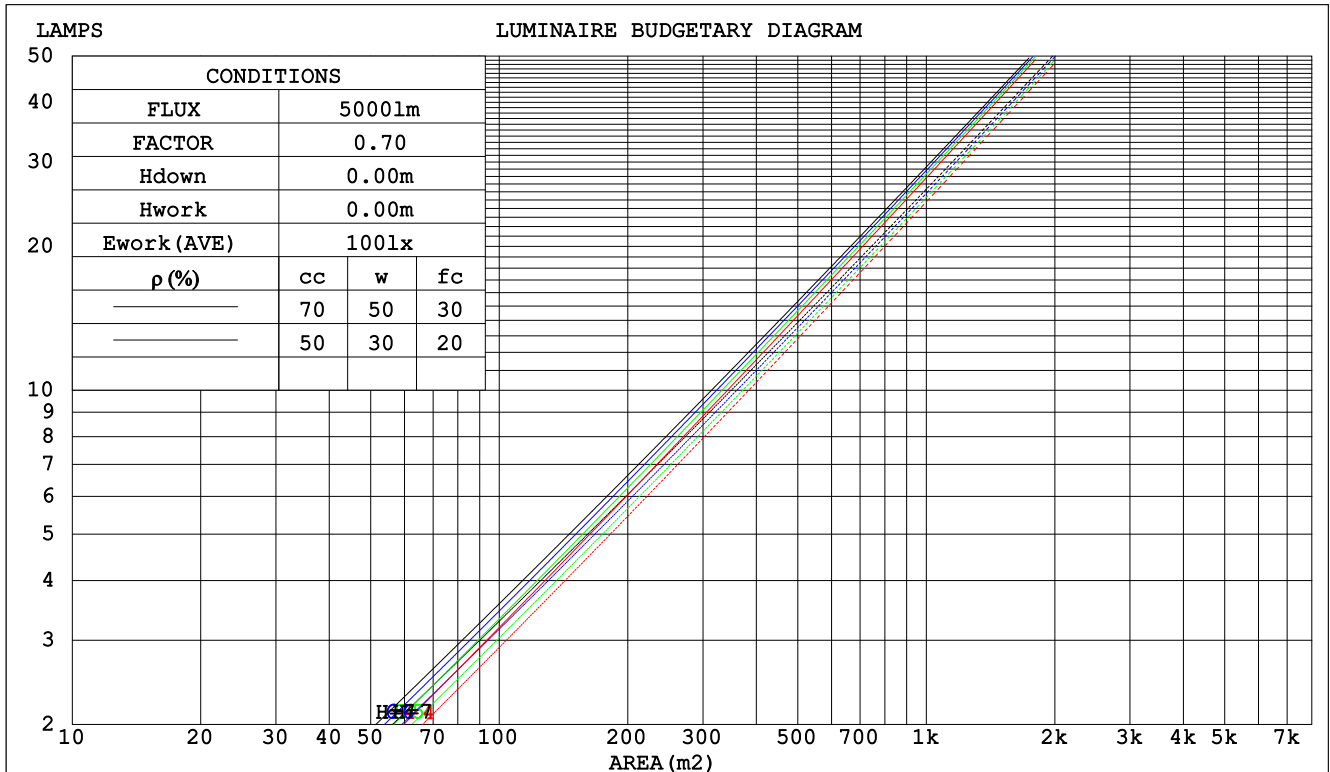
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:XYJ
 Test Date:2019-7-31

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-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-TLO010-21	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:CRI90 3000K 12D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	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	.00
1.0	1.12	1.10	1.08	1.10	1.08	1.07	1.06	1.05	1.03	1.03	1.01	1.00	.99	.98	.98	.96
2.0	1.06	1.03	1.00	1.05	1.02	.99	1.02	.99	.97	.99	.97	.95	.96	.95	.93	.92
3.0	1.01	.97	.94	.90	.96	.94	.97	.95	.92	.95	.93	.91	.93	.91	.89	.88
4.0	.97	.93	.89	.96	.92	.89	.94	.90	.88	.92	.89	.87	.90	.88	.86	.85
5.0	.93	.89	.85	.92	.88	.85	.90	.87	.84	.89	.86	.83	.88	.85	.83	.82
6.0	.90	.85	.82	.89	.85	.82	.87	.84	.81	.86	.83	.80	.85	.82	.80	.79
7.0	.86	.82	.79	.86	.82	.79	.85	.81	.78	.84	.80	.78	.83	.80	.77	.76
8.0	.84	.79	.76	.83	.79	.76	.82	.78	.76	.81	.78	.75	.80	.77	.75	.74
9.0	.81	.77	.74	.81	.77	.74	.80	.76	.74	.79	.76	.73	.78	.75	.73	.72
10.0	.79	.75	.72	.79	.74	.72	.78	.74	.72	.77	.74	.71	.77	.73	.71	.70



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2019-7-31

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

WEC AND CCEC

NAME: VN-TLO010-21	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:CRI90 3000K 12D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	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	.148	.084	.027	.141	.080	.026	.128	.074	.024	.117	.067	.022	.106	.062	.020	
2.0	.138	.076	.023	.133	.073	.023	.122	.068	.021	.113	.063	.020	.104	.059	.019	
3.0	.129	.069	.021	.125	.067	.020	.116	.063	.019	.108	.059	.018	.101	.056	.017	
4.0	.121	.063	.018	.117	.061	.018	.110	.058	.017	.103	.055	.017	.097	.053	.016	
5.0	.114	.058	.017	.110	.057	.017	.104	.054	.016	.098	.052	.015	.093	.050	.015	
6.0	.107	.054	.015	.104	.053	.015	.099	.051	.015	.094	.049	.014	.089	.047	.014	
7.0	.101	.050	.014	.099	.049	.014	.094	.048	.014	.090	.046	.013	.086	.044	.013	
8.0	.096	.047	.013	.094	.046	.013	.090	.045	.013	.086	.044	.013	.082	.042	.012	
9.0	.091	.044	.012	.090	.044	.012	.086	.042	.012	.082	.041	.012	.079	.040	.012	
10.0	.087	.042	.012	.085	.041	.012	.082	.040	.011	.079	.039	.011	.076	.038	.011	

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	.169	.158	.147	.145	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.016	
2.0	.152	.133	.117	.130	.114	.101	.089	.079	.070	.051	.046	.041	.016	.015	.013	
3.0	.137	.113	.094	.118	.098	.082	.081	.068	.057	.047	.040	.034	.015	.013	.011	
4.0	.125	.098	.077	.107	.085	.067	.074	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.115	.086	.065	.099	.074	.056	.068	.052	.040	.039	.031	.024	.013	.010	.008	
6.0	.106	.076	.054	.091	.066	.047	.063	.046	.034	.037	.027	.020	.012	.009	.007	
7.0	.099	.068	.047	.085	.059	.041	.059	.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	.030	.051	.034	.022	.030	.020	.013	.010	.007	.004	
10.0	.081	.051	.031	.070	.044	.027	.049	.031	.019	.028	.018	.011	.009	.006	.004	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2019-7-31

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

UGR(Unified Glare Rating) Table

NAME: VN-TLO010-21					TYPE:LED TRACK LIGHT					WEIGHT:				
SPEC.:CRI90 3000K 12D					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					18.8	19.6	19.1	19.7	19.9	17.5	18.2	17.7	18.3	18.5
3H					19.3	19.9	19.5	20.1	20.3	17.9	18.6	18.1	18.7	18.9
4H					19.3	19.9	19.6	20.1	20.4	17.9	18.5	18.1	18.7	18.9
6H					19.2	19.8	19.5	20.1	20.3	17.8	18.4	18.1	18.6	18.9
8H					19.2	19.8	19.5	20.0	20.3	17.7	18.3	18.0	18.6	18.8
12H					19.1	19.7	19.4	20.0	20.2	17.7	18.3	18.0	18.5	18.8
4H 2H					19.0	19.6	19.2	19.8	20.0	17.8	18.4	18.0	18.6	18.8
3H					19.5	20.0	19.8	20.3	20.6	18.2	18.8	18.5	19.0	19.3
4H					19.5	20.0	19.8	20.3	20.6	18.2	18.7	18.5	19.0	19.3
6H					19.4	19.8	19.8	20.2	20.5	18.1	18.6	18.5	18.9	19.2
8H					19.3	19.8	19.7	20.1	20.5	18.1	18.5	18.4	18.8	19.2
12H					19.3	19.7	19.7	20.0	20.4	18.0	18.4	18.4	18.8	19.1
8H 4H					19.4	19.8	19.8	20.1	20.5	18.1	18.5	18.5	18.9	19.3
6H					19.3	19.6	19.7	20.0	20.4	18.0	18.4	18.4	18.8	19.2
8H					19.2	19.5	19.7	19.9	20.4	18.0	18.3	18.4	18.7	19.1
12H					19.2	19.4	19.6	19.9	20.3	17.9	18.2	18.4	18.6	19.1
12H 4H					19.3	19.7	19.7	20.1	20.5	18.1	18.5	18.5	18.8	19.2
6H					19.2	19.5	19.7	19.9	20.4	18.0	18.3	18.4	18.7	19.1
8H					19.2	19.4	19.6	19.9	20.3	17.9	18.2	18.4	18.6	19.1
Variations with the observer position at spacings:														
S = 1.0H					+ 1.5 / - 1.7					+ 1.1 / - 1.6				
1.5H					+ 2.4 / - 1.3					+ 1.4 / - 1.1				
2.0H					+ 2.3 / - 1.5					+ 1.4 / - 1.3				

CIE Pub.117, 846.3 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.6)

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2019-7-31

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

UTILIZATION FACTORS TABLE

NAME: VN-TLO010-21	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:CRI90 3000K 12D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

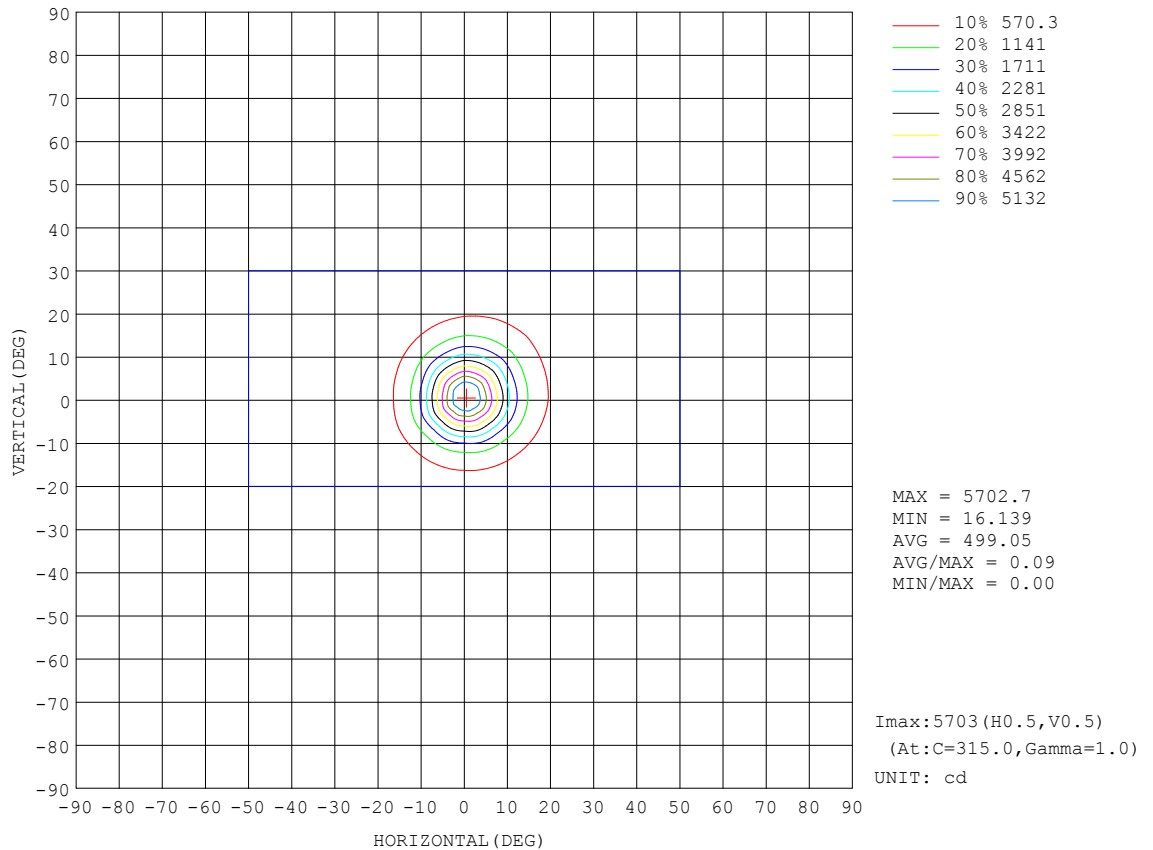
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) k(RI) x RCR = 5									
k = 0.60	87	81	77	87	80	77	86	80	77	73
0.80	94	89	85	94	88	85	93	88	84	81
1.00	99	93	90	98	93	89	96	93	89	85
1.25	103	98	94	102	97	94	100	96	93	89
1.50	106	101	98	104	100	97	102	99	96	91
2.00	108	104	101	107	103	100	104	101	99	93
2.50	110	106	103	108	105	102	105	103	100	95
3.00	112	108	106	110	107	104	107	104	102	96
4.00	114	111	109	112	109	107	108	106	105	98
5.00	115	113	111	113	111	109	109	108	106	99
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004										
Suspended										
SHRNM = 1.25										

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:XYJ
 Test Date:2019-7-31

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

ISOCANDELA DIAGRAM

NAME: VN-TLO010-21	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:CRI90 3000K 12D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

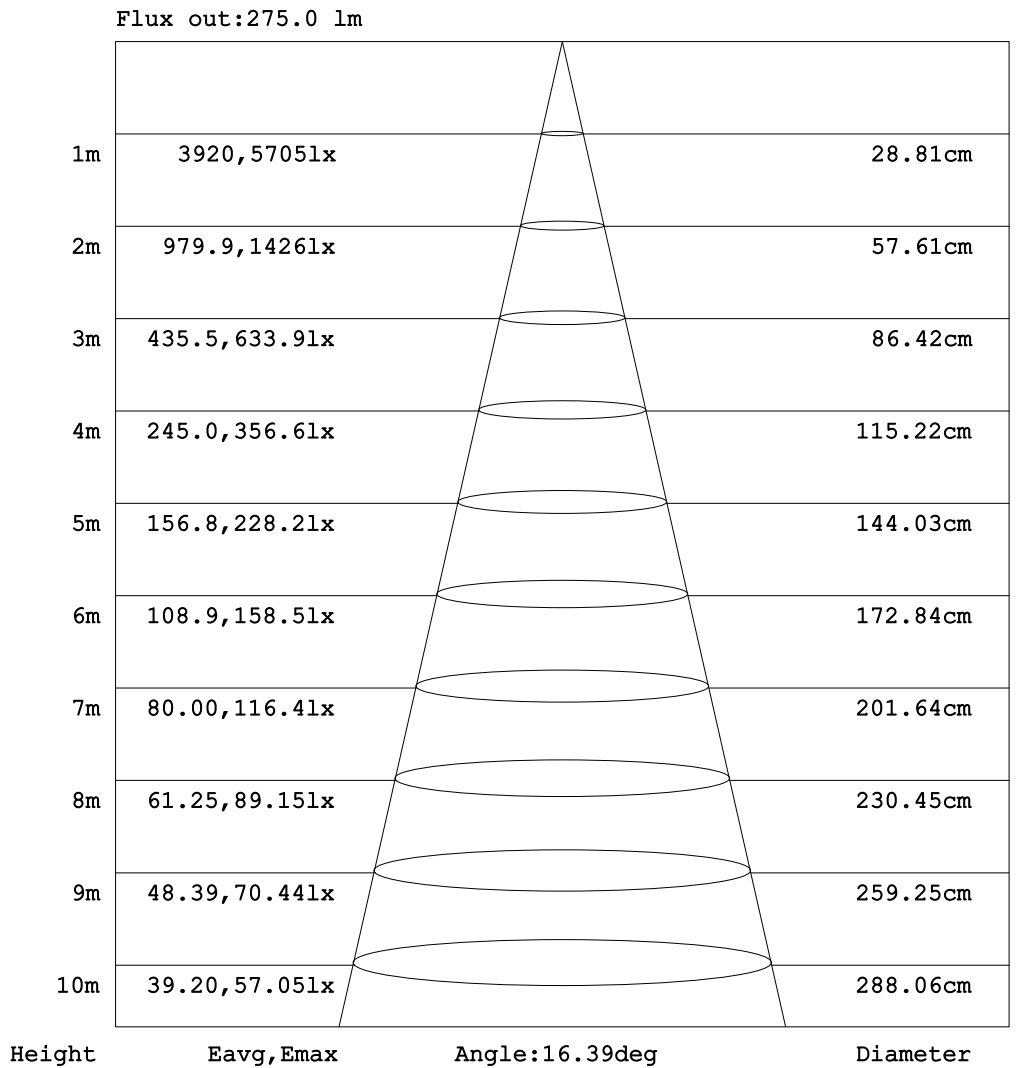


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2019-7-31

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

AAI Figure

NAME: VN-TLO010-21	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:CRI90 3000K 12D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



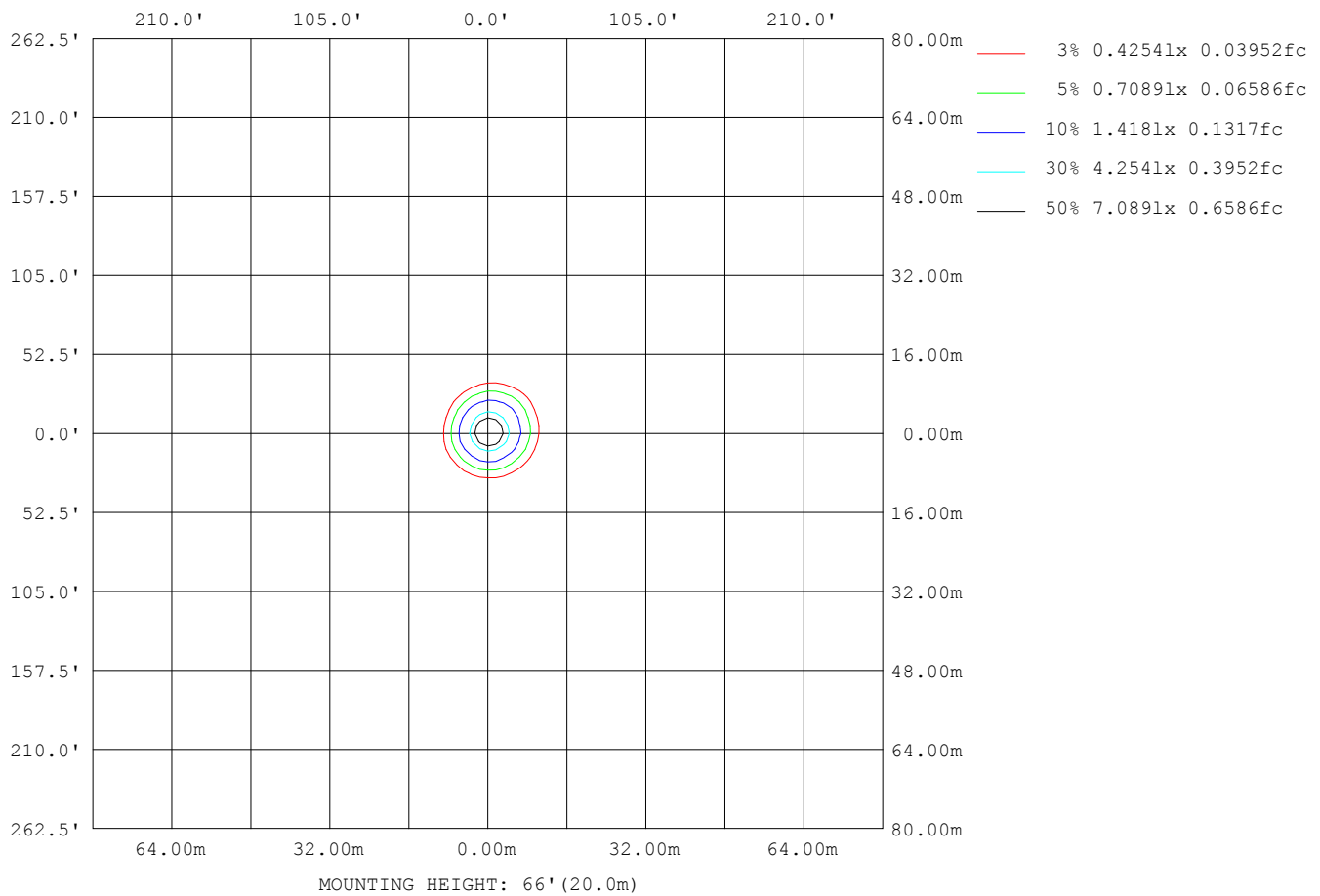
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2019-7-31

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

ISOLUX DIAGRAM

NAME: VN-TLO010-21	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:CRI90 3000K 12D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2019-7-31

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

LED Avg.L Report

NAME: VN-TLO010-21	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:CRI90 3000K 12D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

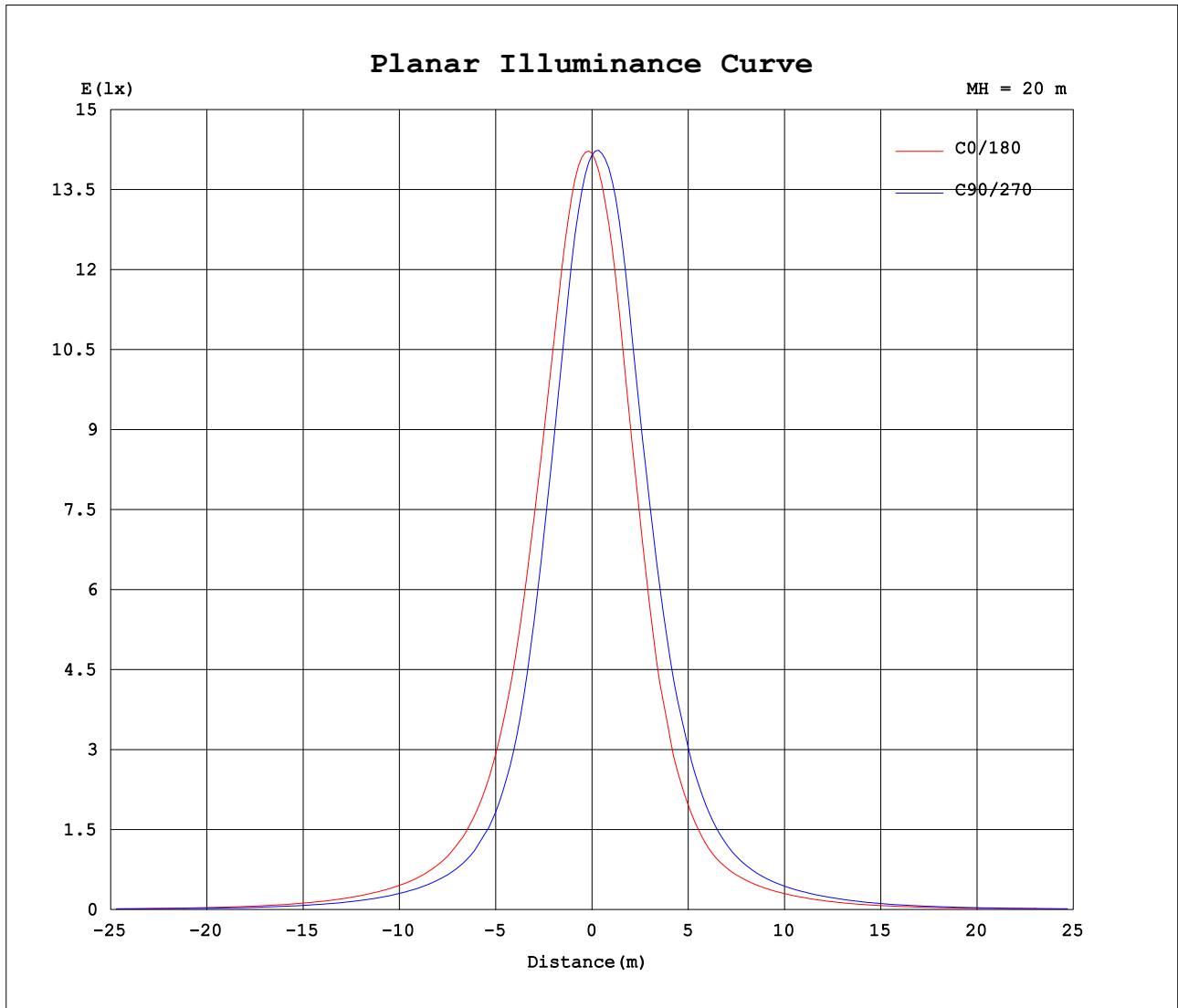
AvgL	cd/m2
L_0~180 (65) av	12937
L_0~180 (75) av	3794
L_0~180 (85) av	1250
L_90~270 (65) av	13062
L_90~270 (75) av	3761
L_90~270 (85) av	1221
L_45 (65) av	13136
L_45 (75) av	3780
L_45 (85) av	1201

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2019-7-31

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-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: 22.5DEG
 Test Speed: MEDIUM
 Temperature: 25.3DEG
 Operators: XYJ
 Test Date: 2019-7-31

γ Range: 0 - 90DEG
 γ 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-TLO010-21	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:CRI90 3000K 12D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

Table--1

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2019-7-31

```

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

```