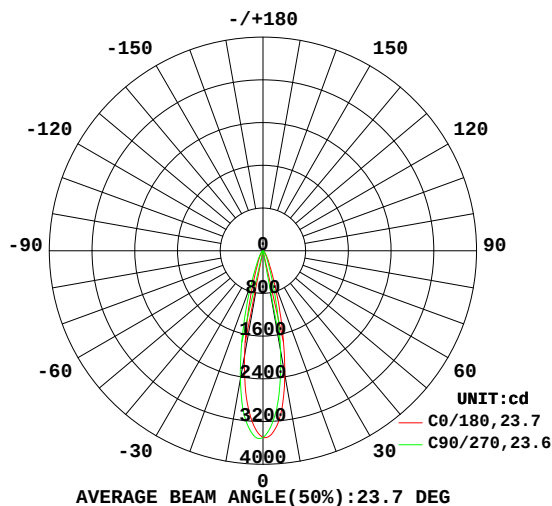


LUMINAIRE PHOTOMETRIC TEST REPORT

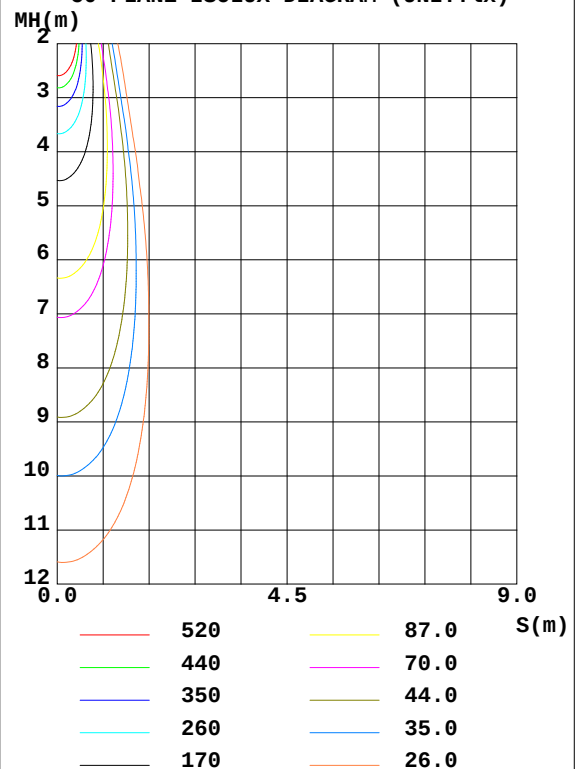
NAME: VN-TL0010-21	TYPE: LED TRACK LIGHT	WEIGHT:
SPEC.: CRI90 3000K 24D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 81.70 lm/W
MODEL	CXM-9-AA10	Imax(cd)	3518	S/MH(C0/180)	0.38	
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	0.44	
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	827.47	η UP, DN(C0-180)	0.0, 46.6	
NOMINAL FLUX(lm)	827.474	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 53.4	
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 G0-2000B_V1 SYSTEM V2.0.401
Humidity: 65.0%
Test Distance: 5.190m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

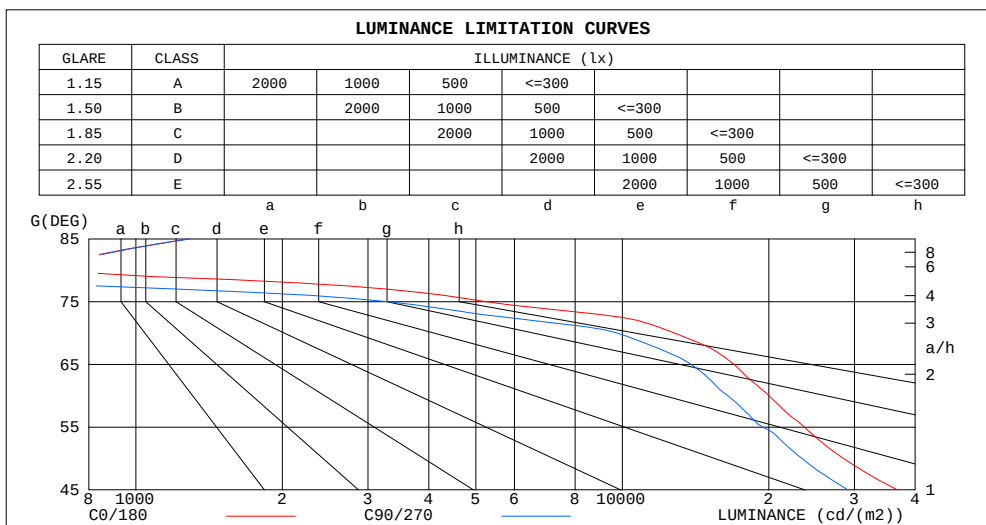
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2353	2076	1890	1872	1994	2222	2444	2491	0- 10	267.3	267.3	32.3, 32.3
20	592.6	456.2	374.3	361.8	376.8	472.5	609.7	675.4	10- 20	311.3	578.7	69.9, 69.9
30	174.2	145.1	123.6	120.5	121.5	140.8	168.5	196.2	20- 30	120.7	699.4	84.5, 84.5
40	69.86	59.75	52.93	51.43	53.02	59.18	68.61	76.86	30- 40	59.69	759.1	91.7, 91.7
50	33.14	29.65	27.23	26.87	27.93	31.61	34.85	36.18	40- 50	33.52	792.6	95.8, 95.8
60	18.12	16.38	14.92	14.42	14.51	16.25	18.02	19.20	50- 60	20.48	813.1	98.3, 98.3
70	7.915	6.819	6.032	5.774	5.945	6.752	7.750	8.394	60- 70	11.48	824.5	99.6, 99.6
80	0.2222	0.2056	0.2012	0.2032	0.1952	0.2060	0.2028	0.2327	70- 80	2.719	827.3	100, 100
90	0.2078	0.2102	0.2365	0.2451	0.2277	0.2102	0.2122	0.2098	80- 90	0.2192	827.5	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
 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-TL0010-21	TYPE: LED TRACK LIGHT	WEIGHT:
SPEC.: CRI90 3000K 24D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1290	1296
80	707	640
75	5223	3274
70	12784	9743
65	16963	13842
60	20024	16481
55	23668	19408
50	28484	23403
45	36801	29059

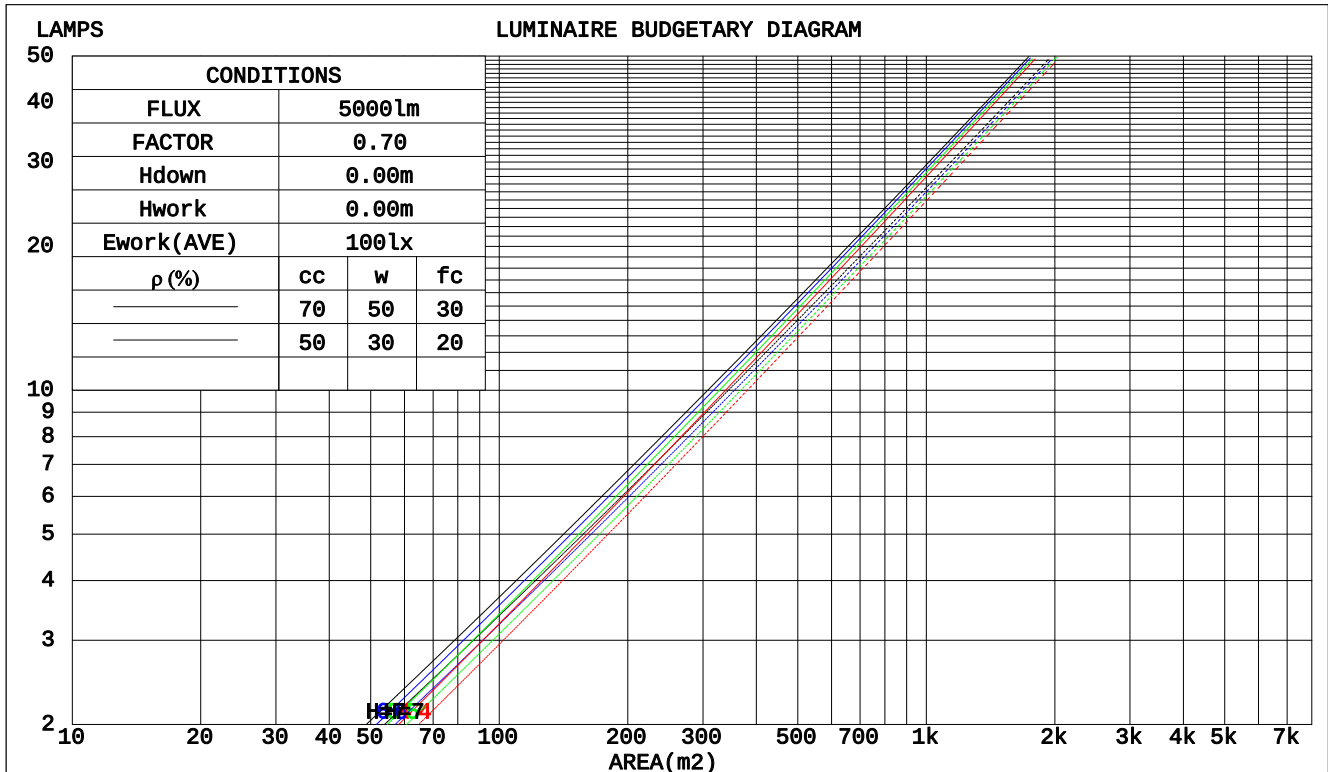
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: MEDIUM
 Temperature: 25.3DEG
 Operators: XYJ
 Test Date: 2019-7-31

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE 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-TL0010-21	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:CRI90 3000K 24D	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	1.00
1.0	1.12	1.10	1.08	1.10	1.08	1.06	1.06	1.04	1.03	1.02	1.01	.99	.99	.98	.97	.95
2.0	1.06	1.02	.99	1.04	1.01	.98	1.01	.98	.96	.98	.96	.94	.95	.94	.92	.91
3.0	1.00	.96	.93	.99	.95	.92	.96	.93	.91	.94	.91	.89	.92	.90	.88	.87
4.0	.96	.91	.88	.94	.90	.87	.92	.89	.86	.91	.88	.85	.89	.86	.84	.83
5.0	.91	.87	.83	.90	.86	.83	.89	.85	.82	.87	.84	.81	.86	.83	.81	.79
6.0	.88	.83	.79	.87	.82	.79	.86	.82	.79	.84	.81	.78	.83	.80	.78	.76
7.0	.84	.80	.76	.84	.79	.76	.83	.79	.76	.81	.78	.75	.80	.77	.75	.74
8.0	.81	.77	.73	.81	.76	.73	.80	.76	.73	.79	.75	.73	.78	.75	.72	.71
9.0	.79	.74	.71	.78	.74	.71	.77	.73	.71	.77	.73	.70	.76	.72	.70	.69
10.0	.76	.72	.69	.76	.71	.68	.75	.71	.68	.74	.71	.68	.74	.70	.68	.67



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 G0-2000B_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:5.190m [K=1.0000]
Remarks:

WEC AND CCEC

NAME: VN-TL0010-21	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:CRI90 3000K 24D	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	.154	.088	.028	.147	.084	.027	.135	.077	.025	.123	.071	.023	.113	.065	.021		
2.0	.145	.079	.024	.139	.077	.024	.129	.072	.022	.119	.067	.021	.111	.063	.020		
3.0	.136	.072	.022	.131	.070	.021	.122	.066	.020	.114	.063	.019	.107	.059	.018		
4.0	.127	.066	.019	.124	.065	.019	.116	.062	.018	.109	.059	.018	.103	.056	.017		
5.0	.120	.061	.018	.117	.060	.017	.110	.057	.017	.104	.055	.016	.099	.053	.016		
6.0	.113	.057	.016	.110	.056	.016	.105	.054	.016	.100	.052	.015	.095	.050	.015		
7.0	.107	.053	.015	.105	.052	.015	.100	.051	.015	.095	.049	.014	.091	.047	.014		
8.0	.102	.050	.014	.100	.049	.014	.095	.048	.014	.091	.046	.013	.088	.045	.013		
9.0	.097	.047	.013	.095	.046	.013	.091	.045	.013	.088	.044	.013	.084	.043	.012		
10.0	.093	.044	.012	.091	.044	.012	.088	.043	.012	.084	.042	.012	.081	.041	.012		

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.139	.113	.093	.119	.098	.081	.082	.068	.057	.047	.040	.033	.015	.013	.011	
4.0	.127	.098	.076	.109	.085	.066	.075	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.117	.086	.064	.100	.075	.055	.069	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.108	.076	.054	.093	.066	.047	.064	.046	.033	.037	.027	.020	.012	.009	.006	
7.0	.101	.068	.046	.087	.059	.040	.060	.042	.028	.035	.024	.017	.011	.008	.006	
8.0	.094	.062	.039	.081	.054	.034	.056	.038	.024	.033	.022	.015	.011	.007	.005	
9.0	.089	.056	.034	.076	.049	.030	.053	.034	.021	.031	.020	.013	.010	.007	.004	
10.0	.084	.052	.030	.072	.045	.026	.050	.031	.019	.029	.019	.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 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-TL0010-21						TYPE:LED TRACK LIGHT			WEIGHT:		
SPEC.:CRI90 3000K 24D						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		19.4	20.1	19.6	20.3	20.5	18.4	19.1	18.6	19.3	19.4
3H		19.9	20.6	20.1	20.8	21.0	18.8	19.5	19.1	19.7	19.9
4H		19.9	20.6	20.2	20.8	21.0	18.8	19.5	19.1	19.7	19.9
6H		19.8	20.5	20.1	20.7	21.0	18.7	19.4	19.0	19.6	19.8
8H		19.8	20.4	20.1	20.7	20.9	18.7	19.3	19.0	19.5	19.8
12H		19.8	20.3	20.1	20.6	20.9	18.6	19.2	18.9	19.5	19.8
4H 2H		19.6	20.2	19.8	20.4	20.6	18.7	19.3	18.9	19.6	19.8
3H		20.1	20.7	20.5	21.0	21.3	19.2	19.8	19.5	20.0	20.3
4H		20.2	20.7	20.5	21.0	21.3	19.2	19.7	19.5	20.0	20.3
6H		20.1	20.6	20.4	20.9	21.2	19.1	19.5	19.4	19.9	20.2
8H		20.0	20.5	20.4	20.8	21.2	19.0	19.5	19.4	19.8	20.2
12H		20.0	20.4	20.4	20.7	21.1	19.0	19.4	19.4	19.7	20.1
8H 4H		20.1	20.5	20.4	20.9	21.2	19.1	19.5	19.5	19.9	20.2
6H		20.0	20.3	20.4	20.7	21.1	19.0	19.3	19.4	19.7	20.1
8H		19.9	20.2	20.4	20.6	21.1	18.9	19.2	19.4	19.7	20.1
12H		19.9	20.1	20.3	20.6	21.0	18.9	19.1	19.3	19.6	20.1
12H 4H		20.0	20.4	20.4	20.8	21.2	19.0	19.4	19.4	19.8	20.2
6H		19.9	20.2	20.4	20.6	21.1	18.9	19.2	19.4	19.7	20.1
8H		19.8	20.1	20.3	20.6	21.0	18.9	19.1	19.3	19.6	20.0
Variations with the observer position at spacings:											
S = 1.0H		+ 1.1 / - 1.4					+ 1.0 / - 1.4				
1.5H		+ 1.8 / - 0.9					+ 1.1 / - 0.9				
2.0H		+ 1.9 / - 1.3					+ 1.5 / - 1.2				

CIE Pub.117, 827.5 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = -0.7$)

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
 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-TL0010-21	TYPE: LED TRACK LIGHT	WEIGHT:
SPEC.: CRI90 3000K 24D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

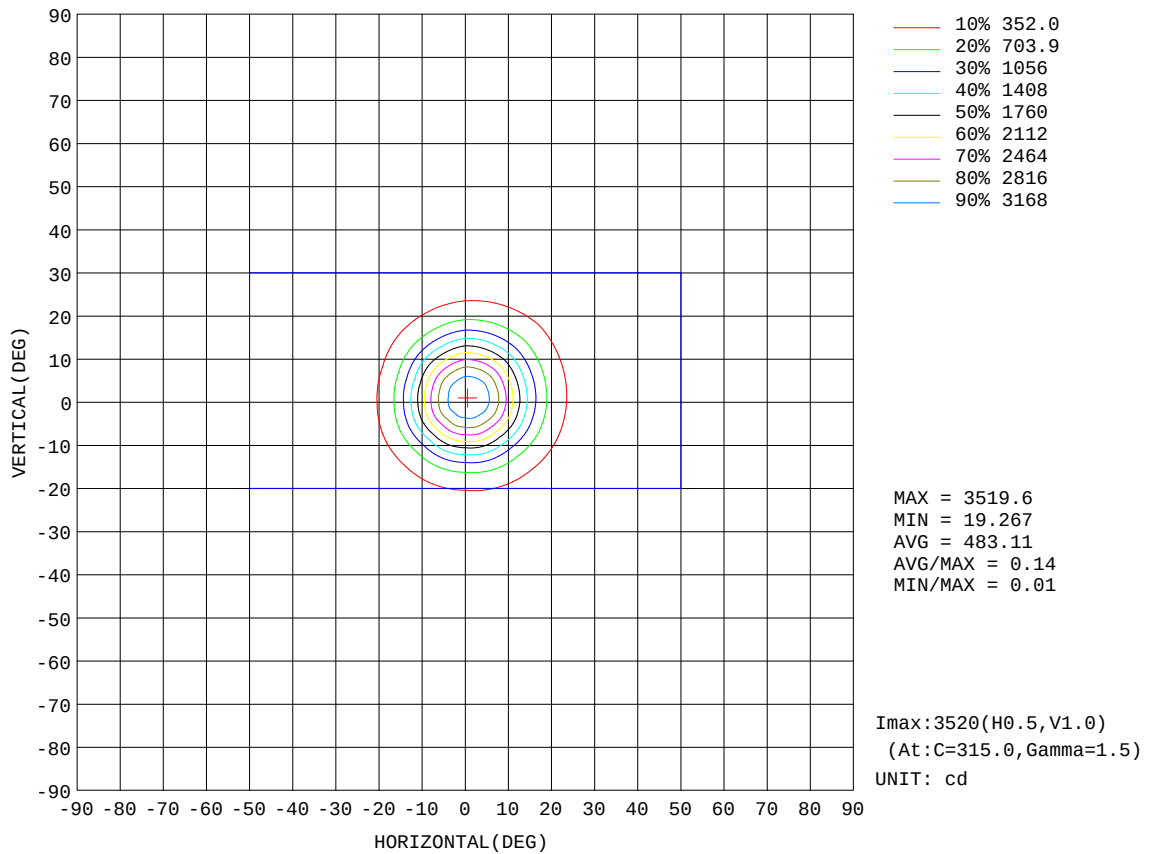
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	86	80	76	86	80	76	85	79	76	72
0.80	94	88	84	93	87	84	92	87	83	80
1.00	98	93	89	98	92	89	96	92	88	84
1.25	103	97	94	101	97	93	100	95	92	88
1.50	105	100	97	104	100	96	102	98	95	91
2.00	108	104	101	107	103	100	104	101	98	93
2.50	110	106	103	108	105	102	105	102	100	94
3.00	112	108	105	110	107	104	106	104	102	96
4.00	114	111	109	112	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				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 G0-2000B_V1 SYSTEM V2.0.401
 Humidity: 65.0%
 Test Distance: 5.190m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

NAME: VN-TL0010-21	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:CRI90 3000K 24D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

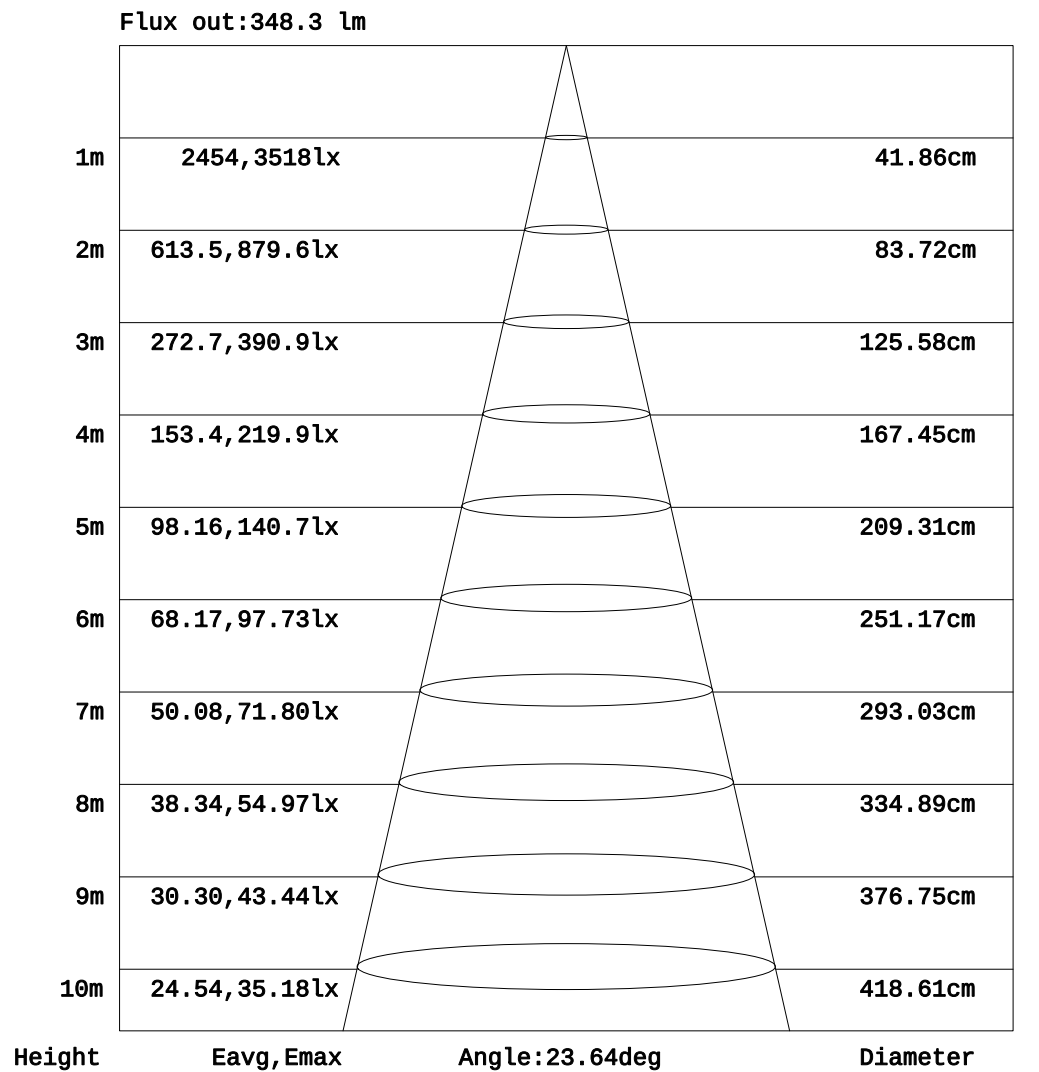


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: XYJ
Test Date: 2019-7-31

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

AAI Figure

NAME: VN-TL0010-21	TYPE: LED TRACK LIGHT	WEIGHT:
SPEC.: CRI90 3000K 24D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



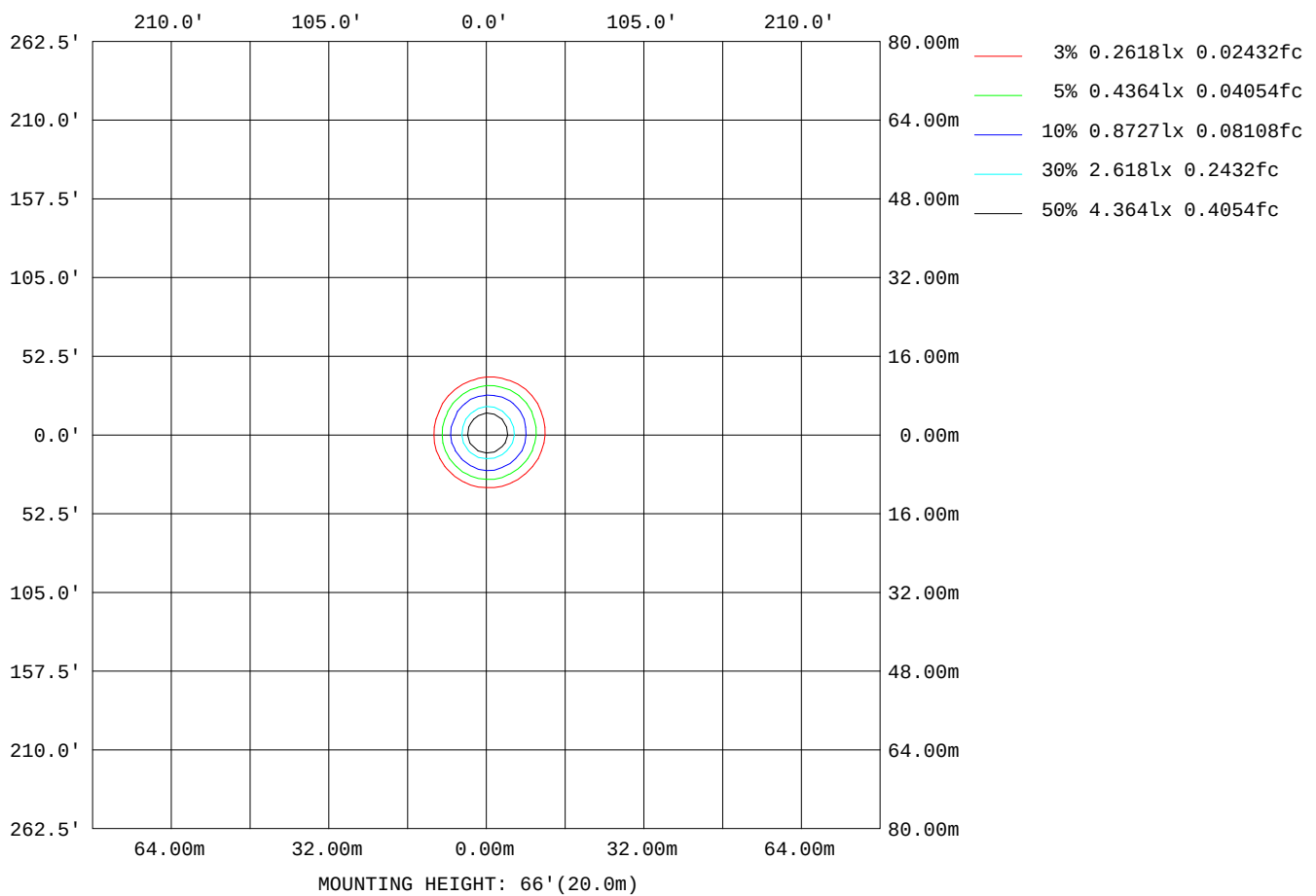
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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 G0-2000B_V1 SYSTEM V2.0.401
Humidity: 65.0%
Test Distance: 5.190m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

NAME: VN-TL0010-21	TYPE: LED TRACK LIGHT	WEIGHT:
SPEC.: CRI90 3000K 24D	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 G0-2000B_V1 SYSTEM V2.0.401
Humidity: 65.0%
Test Distance: 5.190m [K=1.0000]
Remarks:

LED Avg.L Report

NAME: VN-TL0010-21	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:CRI90 3000K 24D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

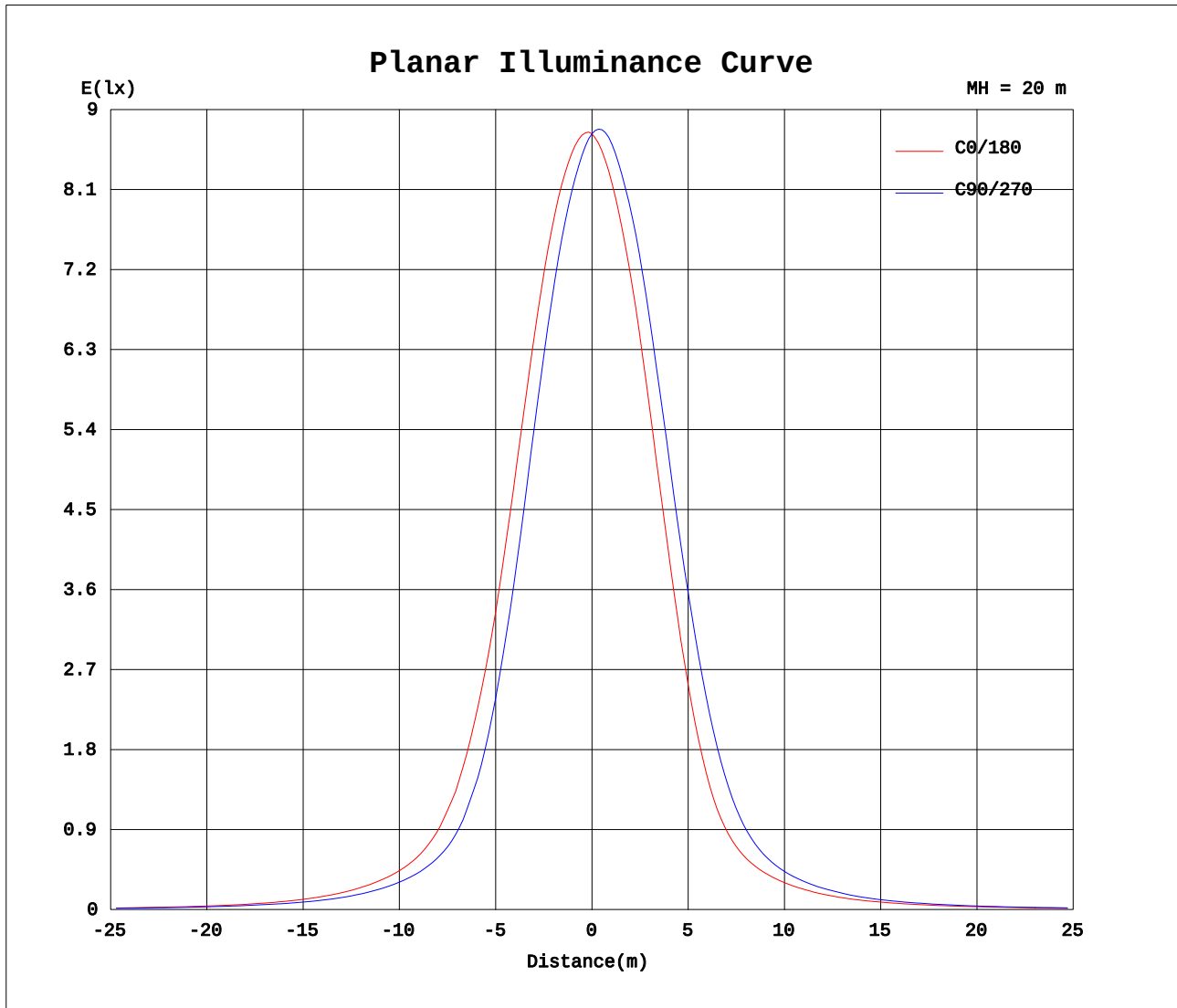
AvgL	cd/m2
L_0~180(65)av	15164
L_0~180(75)av	4293
L_0~180(85)av	1305
L_90~270(65)av	15203
L_90~270(75)av	4271
L_90~270(85)av	1252
L_45(65)av	15292
L_45(75)av	4322
L_45(85)av	1249

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 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: 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 G0-2000B_V1 SYSTEM V2.0.401
 Humidity: 65.0%
 Test Distance: 5.190m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: VN-TL0010-21	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:CRI90 3000K 24D	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

```

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:

```