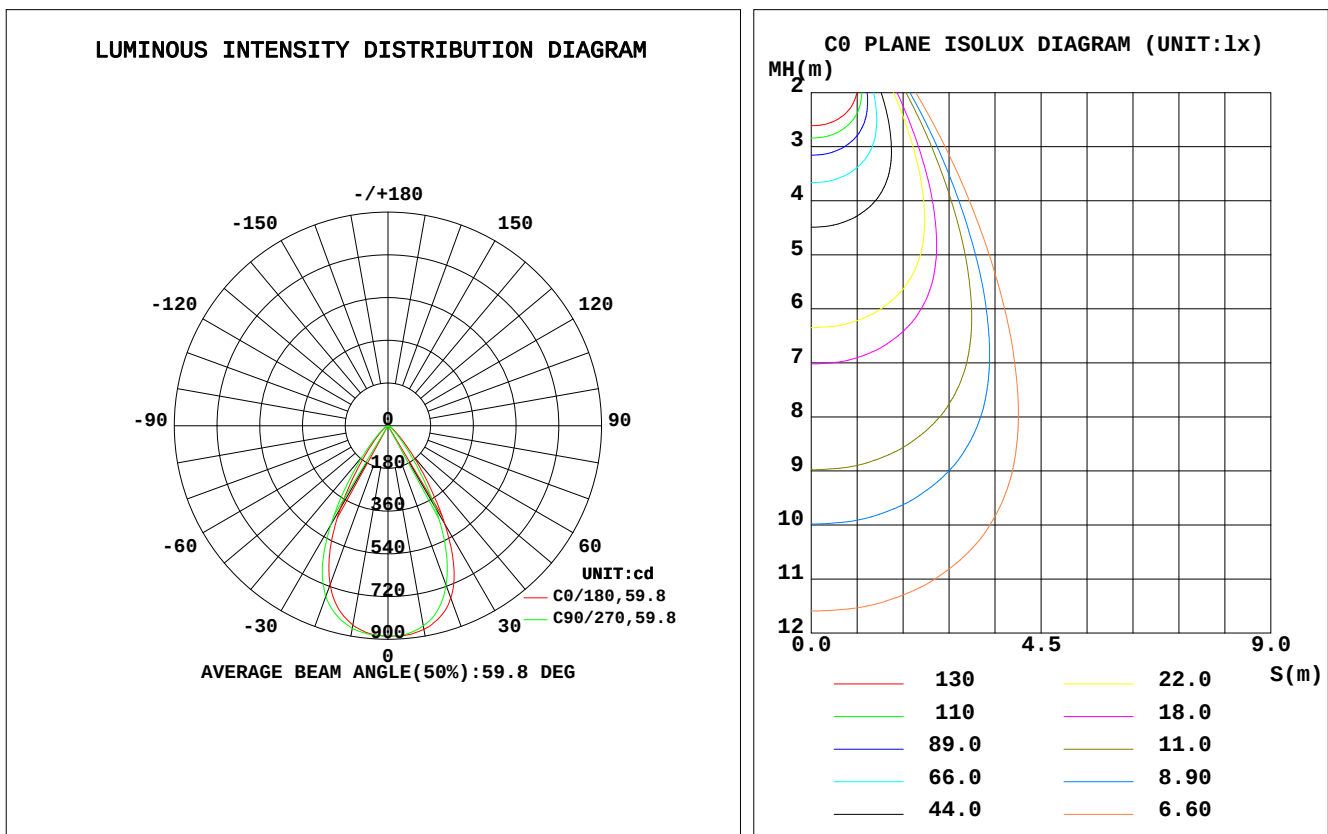


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: VN-TL0010-21	TYPE: LED TRACK LIGHT	WEIGHT:
SPEC.: CRI90 3000K 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 83.78 lm/W
MODEL	CXM-9-AA10	Imax(cd)	887.2	S/MH(C0/180)	0.86	
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	0.91	
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	848.89	η UP, DN(C0-180)	0.0, 48.5	
NOMINAL FLUX(lm)	848.888	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 51.5	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75	
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.90	



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:

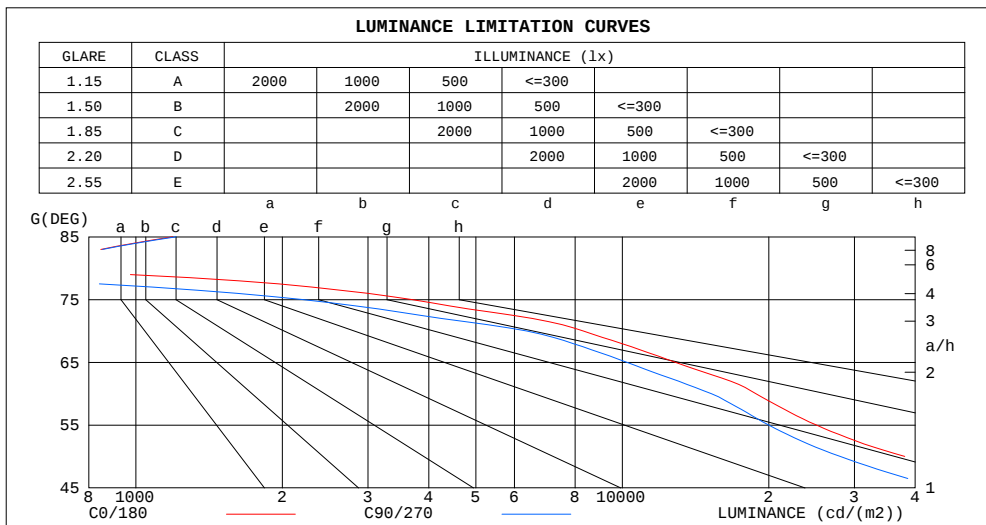
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	870.8	865.3	856.0	851.1	852.7	861.5	866.0	869.4	0- 10	83.58	83.58	9.85, 9.85
20	773.4	745.1	715.2	705.4	712.4	738.6	765.2	779.2	10- 20	228.7	312.3	36.8, 36.8
30	479.5	436.9	397.3	383.9	399.9	440.7	483.2	498.6	20- 30	276.7	589.0	69.4, 69.4
40	161.7	134.3	114.9	110.9	118.6	140.0	162.1	173.2	30- 40	167.0	755.9	89.1, 89.1
50	44.26	38.12	32.60	32.10	34.86	40.73	45.25	47.54	40- 50	59.13	815.1	96, 96
60	17.02	15.65	13.78	13.49	14.37	16.54	17.41	17.96	50- 60	22.43	837.5	98.7, 98.7
70	5.143	4.512	3.931	3.773	4.119	4.905	5.536	5.661	60- 70	9.317	846.8	99.8, 99.8
80	0.1999	0.1878	0.1878	0.1855	0.1819	0.2139	0.1808	0.2045	70- 80	1.866	848.7	100, 100
90	0.2077	0.2098	0.2076	0.2098	0.2099	0.1900	0.1767	0.1745	80- 90	0.2038	848.9	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 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1192	1210
80	636	598
75	3692	2203
70	8309	6354
65	12856	10214
60	18807	15238
55	25067	20005
50	38053	28039
45	66024	45374

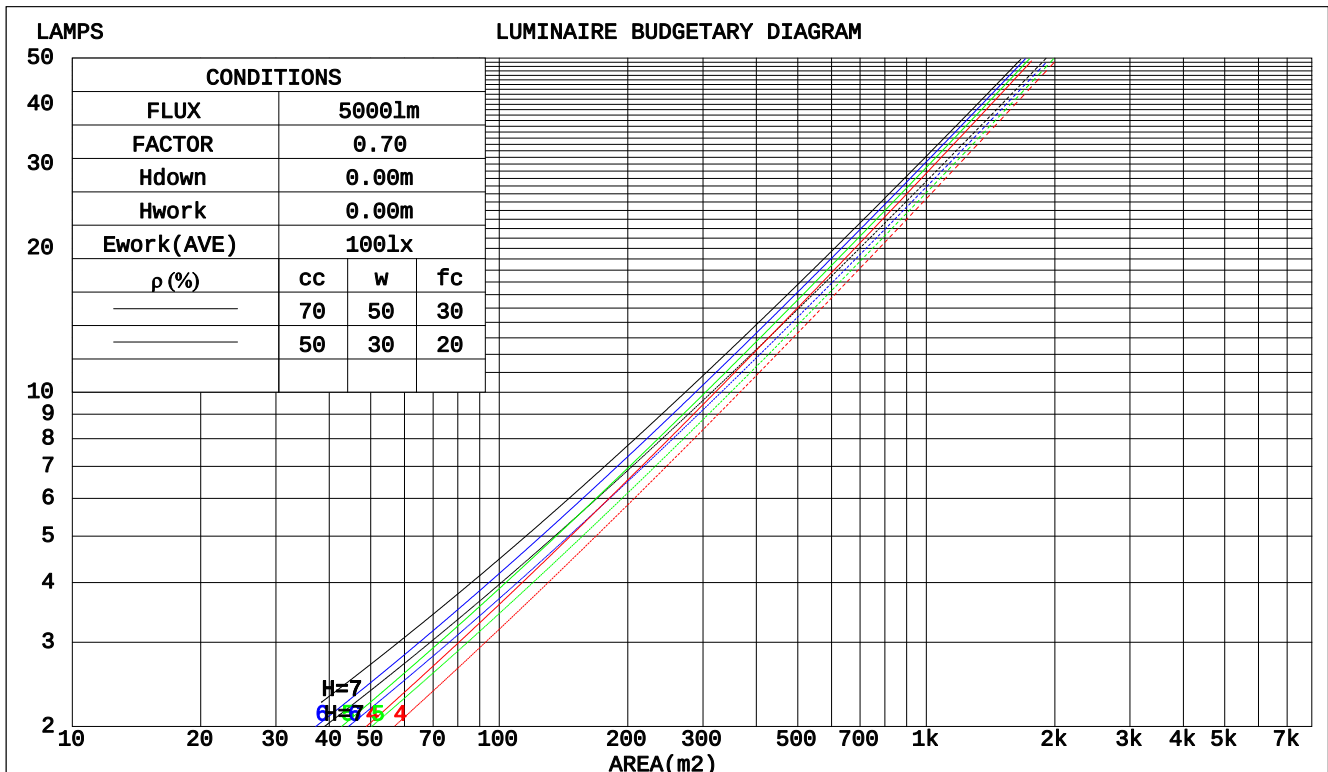
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:XYJ
 Test Date:2019-7-31

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 60D	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						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	1.00
1.0	1.10	1.08	1.06	1.08	1.06	1.04	1.04	1.02	1.01	1.00	.99	.98	.97	.96	.95	.93
2.0	1.02	.98	.95	1.01	.97	.94	.97	.94	.92	.94	.92	.90	.92	.90	.88	.86
3.0	.95	.90	.86	.94	.89	.85	.91	.87	.84	.89	.85	.83	.86	.84	.81	.80
4.0	.89	.83	.79	.88	.82	.78	.85	.81	.77	.83	.79	.76	.81	.78	.75	.74
5.0	.83	.77	.72	.82	.76	.72	.80	.75	.71	.78	.74	.71	.77	.73	.70	.69
6.0	.78	.71	.67	.77	.71	.67	.75	.70	.66	.74	.69	.66	.72	.68	.65	.64
7.0	.73	.67	.62	.72	.66	.62	.71	.66	.62	.70	.65	.61	.68	.64	.61	.60
8.0	.68	.62	.58	.68	.62	.58	.67	.61	.58	.66	.61	.57	.65	.60	.57	.56
9.0	.65	.58	.54	.64	.58	.54	.63	.58	.54	.62	.57	.54	.61	.57	.54	.52
10.0	.61	.55	.51	.61	.55	.51	.60	.54	.51	.59	.54	.51	.58	.54	.51	.49



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 60D	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	.184	.105	.033	.177	.101	.032	.164	.094	.030	.153	.088	.028	.142	.082	.027		
2.0	.177	.097	.030	.171	.094	.029	.160	.089	.028	.151	.085	.026	.142	.080	.025		
3.0	.169	.090	.027	.164	.088	.026	.155	.084	.025	.146	.080	.025	.138	.077	.024		
4.0	.161	.083	.025	.156	.082	.024	.149	.079	.024	.141	.076	.023	.134	.073	.022		
5.0	.153	.078	.023	.149	.077	.022	.142	.074	.022	.136	.072	.021	.130	.069	.021		
6.0	.146	.073	.021	.143	.072	.021	.137	.070	.020	.131	.068	.020	.126	.066	.020		
7.0	.139	.069	.020	.136	.068	.019	.131	.066	.019	.126	.065	.019	.121	.063	.018		
8.0	.133	.065	.018	.131	.064	.018	.126	.063	.018	.121	.061	.018	.117	.060	.017		
9.0	.127	.062	.017	.125	.061	.017	.121	.060	.017	.117	.058	.017	.113	.057	.017		
10.0	.122	.058	.016	.120	.058	.016	.116	.057	.016	.112	.056	.016	.109	.055	.016		

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	.172	.157	.144	.147	.135	.124	.100	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.157	.132	.112	.134	.114	.097	.092	.079	.067	.053	.046	.040	.017	.015	.013	
3.0	.145	.114	.089	.124	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.135	.099	.072	.116	.086	.062	.080	.060	.044	.046	.035	.026	.015	.011	.009	
5.0	.127	.088	.059	.109	.076	.051	.075	.053	.036	.043	.031	.021	.014	.010	.007	
6.0	.119	.078	.049	.103	.068	.043	.071	.047	.030	.041	.028	.018	.013	.009	.006	
7.0	.113	.071	.041	.097	.061	.036	.067	.043	.026	.039	.025	.015	.013	.008	.005	
8.0	.107	.065	.035	.092	.056	.031	.064	.039	.022	.037	.023	.013	.012	.008	.004	
9.0	.102	.060	.031	.088	.052	.027	.061	.036	.019	.036	.021	.011	.012	.007	.004	
10.0	.098	.055	.027	.084	.048	.024	.058	.034	.017	.034	.020	.010	.011	.007	.003	

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 60D						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		23.4	24.4	23.7	24.6	24.8	22.3	23.3	22.5	23.4	23.6
3H		23.4	24.3	23.6	24.5	24.7	22.2	23.1	22.5	23.3	23.5
4H		23.3	24.1	23.6	24.4	24.6	22.1	23.0	22.4	23.2	23.4
6H		23.2	24.0	23.5	24.2	24.5	22.0	22.8	22.3	23.1	23.3
8H		23.1	23.9	23.5	24.2	24.4	22.0	22.8	22.3	23.0	23.3
12H		23.1	23.8	23.4	24.1	24.4	21.9	22.7	22.3	23.0	23.2
4H 2H		23.3	24.1	23.5	24.3	24.6	22.1	23.0	22.4	23.2	23.5
3H		23.2	23.9	23.5	24.2	24.5	22.1	22.8	22.4	23.1	23.4
4H		23.1	23.8	23.5	24.1	24.4	22.0	22.7	22.4	23.0	23.3
6H		23.0	23.6	23.4	23.9	24.3	21.9	22.5	22.3	22.8	23.2
8H		23.0	23.5	23.4	23.9	24.2	21.9	22.4	22.3	22.8	23.1
12H		22.9	23.4	23.3	23.8	24.2	21.8	22.3	22.2	22.7	23.1
8H 4H		23.0	23.5	23.4	23.9	24.2	21.9	22.4	22.3	22.8	23.1
6H		22.9	23.3	23.3	23.7	24.1	21.8	22.2	22.2	22.6	23.0
8H		22.8	23.2	23.3	23.6	24.1	21.7	22.1	22.2	22.5	23.0
12H		22.8	23.1	23.3	23.6	24.0	21.7	22.0	22.1	22.5	22.9
12H 4H		22.9	23.4	23.3	23.8	24.2	21.8	22.3	22.2	22.7	23.1
6H		22.8	23.2	23.3	23.6	24.1	21.7	22.1	22.2	22.5	23.0
8H		22.8	23.1	23.3	23.6	24.0	21.7	22.0	22.1	22.4	22.9
Variations with the observer position at spacings:											
S = 1.0H		+ 2.9 / - 5.3					+ 2.3 / - 5.1				
1.5H		+ 4.5 / - 4.3					+ 3.9 / - 3.6				
2.0H		+ 4.6 / - 3.7					+ 3.5 / - 3.1				

CIE Pub.117, 848.9 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 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 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

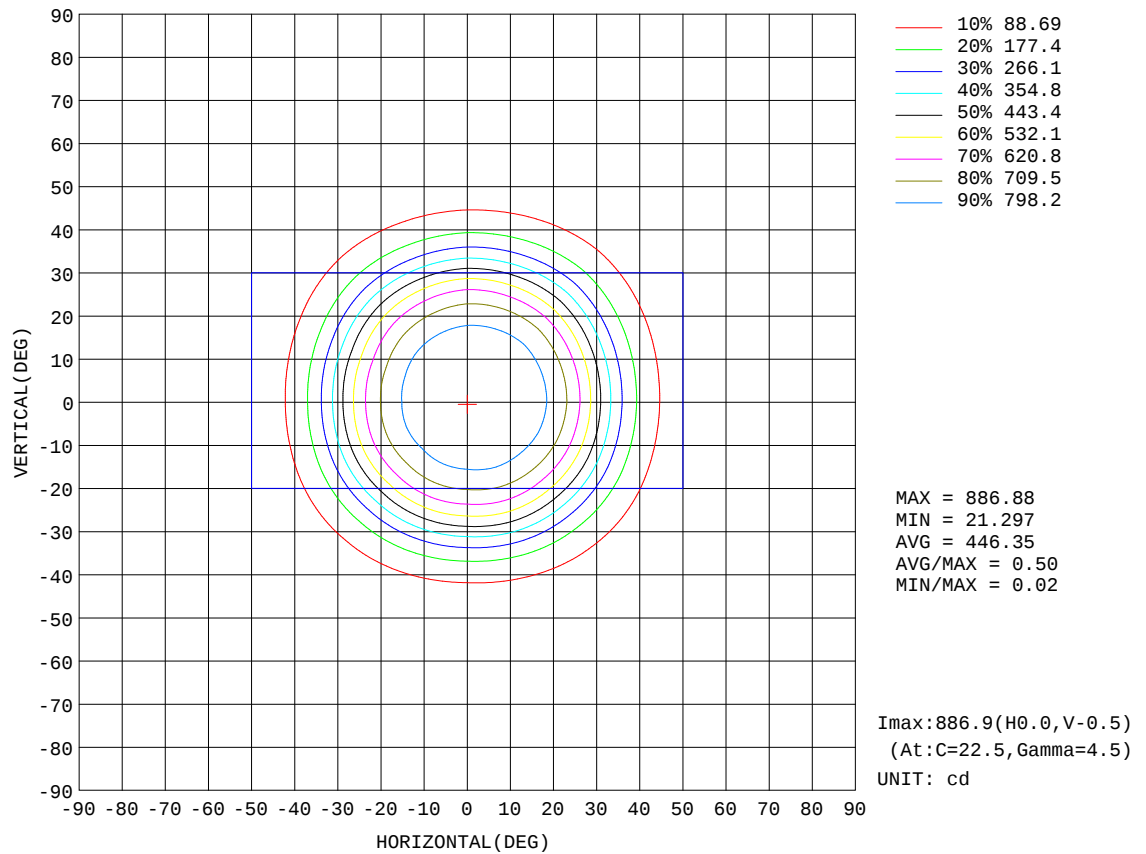
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	85	78	74	84	78	74	83	77	73	70
0.80	92	86	82	92	86	82	91	85	82	78
1.00	97	91	88	97	91	87	95	91	87	83
1.25	102	96	93	101	96	92	99	94	91	87
1.50	105	100	96	103	99	96	101	97	94	90
2.00	108	103	100	106	102	99	104	100	98	92
2.50	110	106	102	108	104	101	105	102	100	94
3.00	111	108	105	109	106	104	106	104	101	95
4.00	113	110	108	111	109	107	108	106	104	97
5.00	115	112	110	112	110	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: 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 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

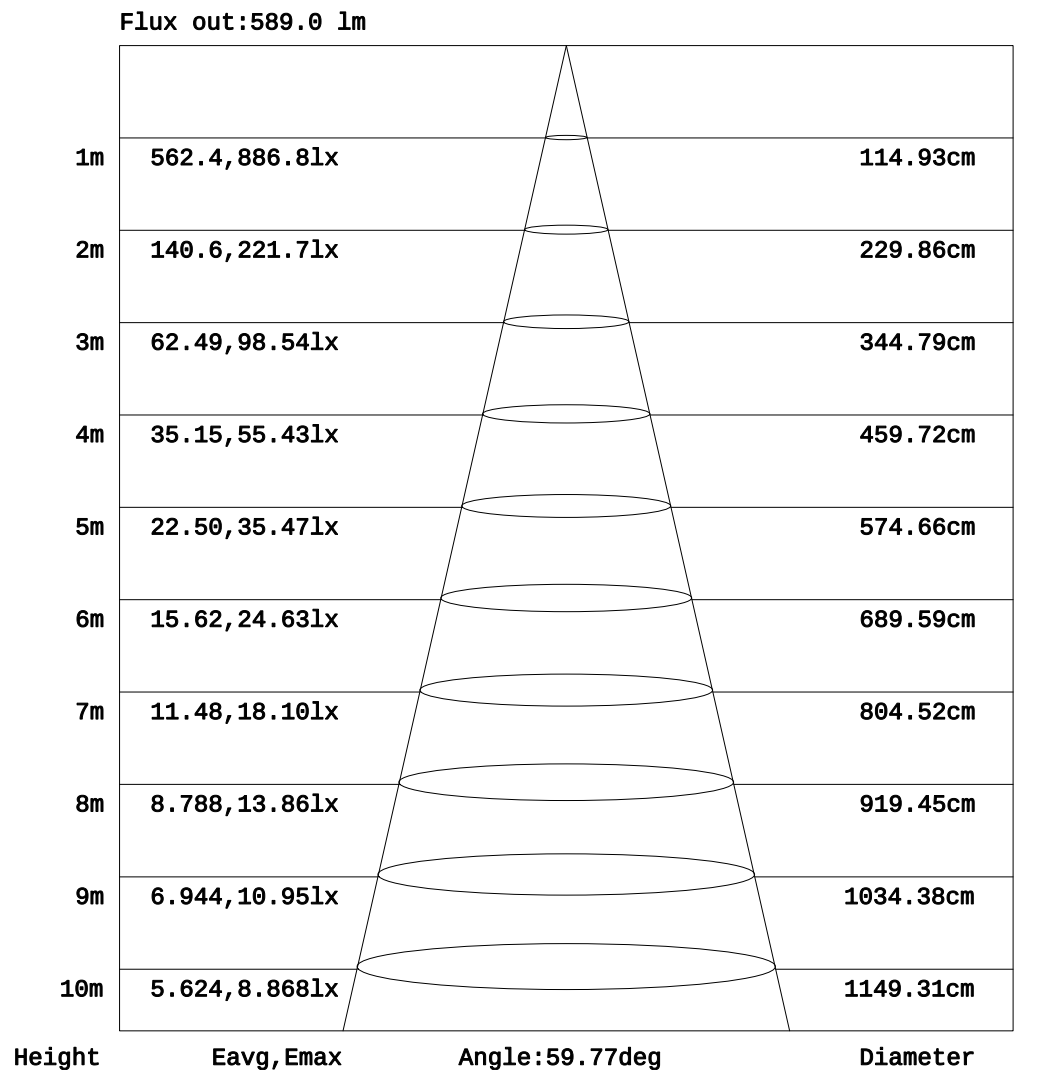


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: XYJ
Test Date: 2019-7-31

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 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



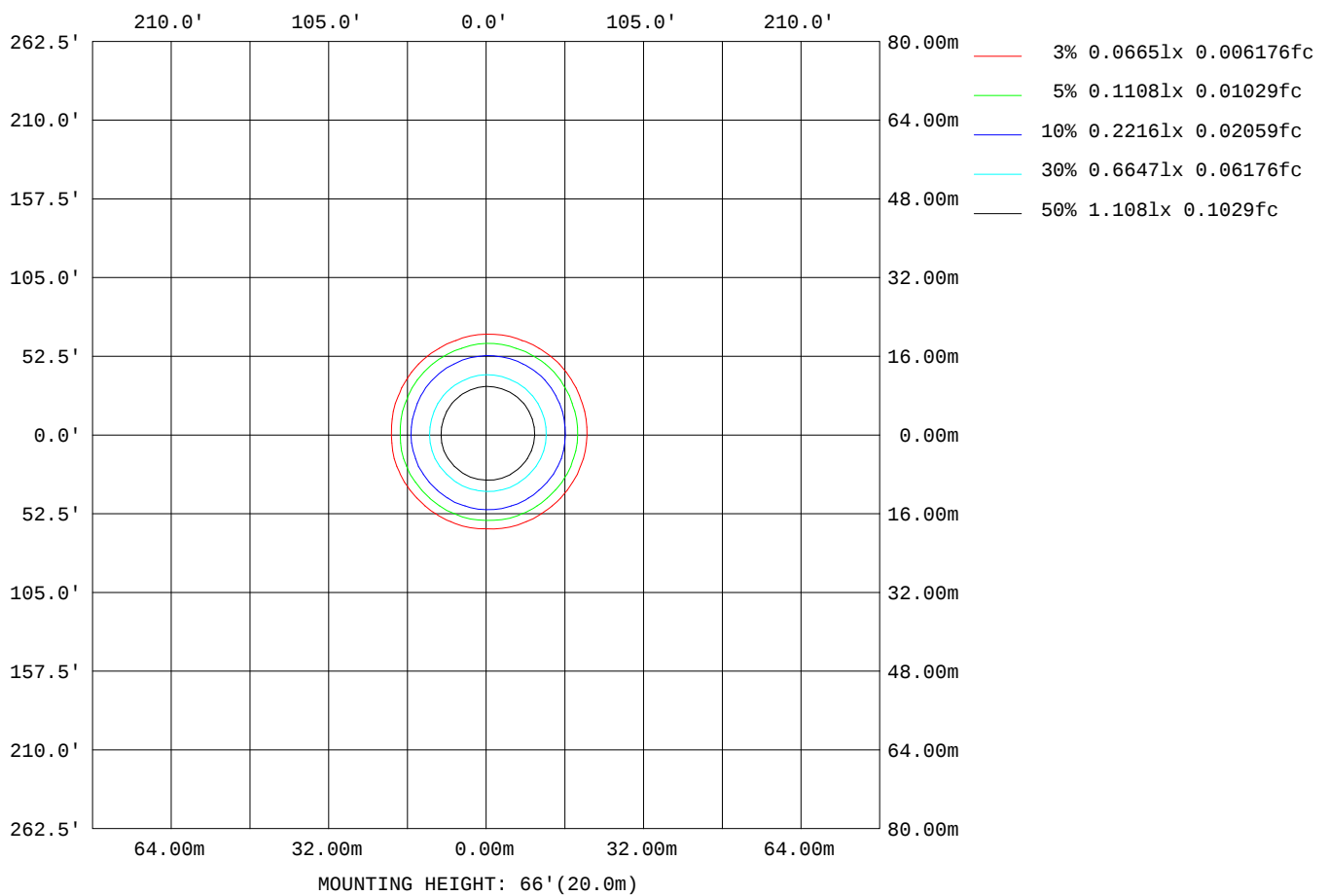
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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 60D	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 60D	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

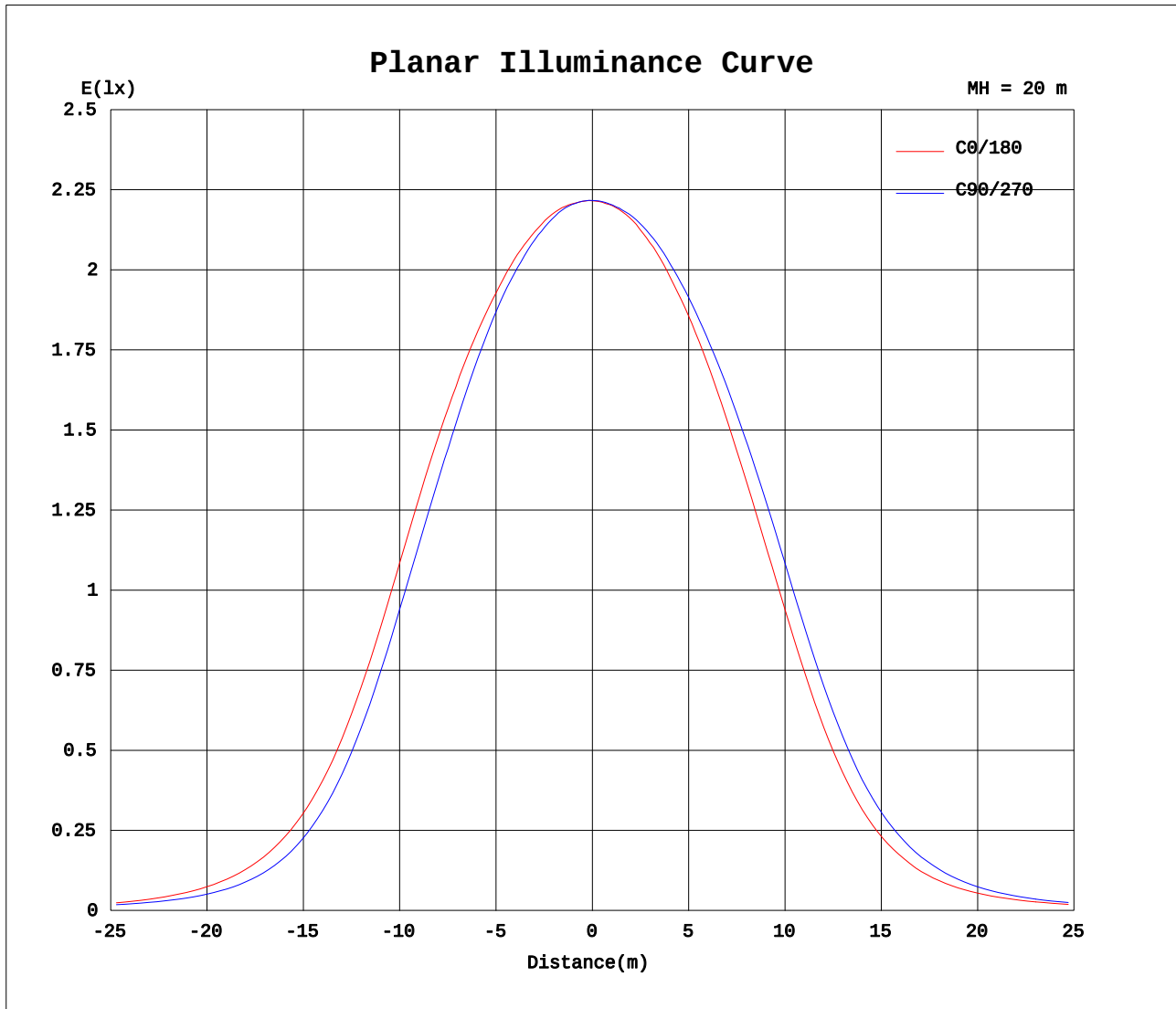
AvgL	cd/m2
L_0~180(65)av	11588
L_0~180(75)av	3083
L_0~180(85)av	1198
L_90~270(65)av	11794
L_90~270(75)av	3106
L_90~270(85)av	1165
L_45(65)av	11765
L_45(75)av	3103
L_45(85)av	1167

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 60D	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 GO-2000B_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:5.190m [K=1.0000]
Remarks:

```