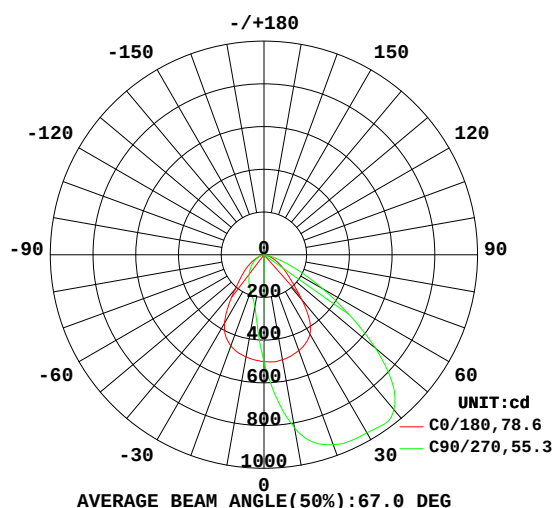


LUMINAIRE PHOTOMETRIC TEST REPORT

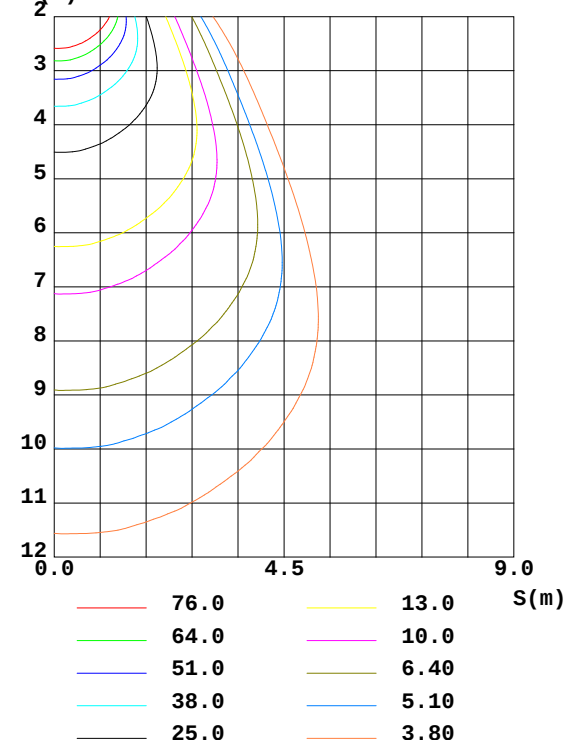
NAME: VN-TL0020-51 BLACK 80 3000K 25*75	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:90 3000K 25*75	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 62.93 lm/W			
MODEL	CXA1820	Imax(cd)	1006	S/MH(C0/180)	1.09
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	0.32
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	1289.4	η UP, DN(C0-180)	0.0,80.3
NOMINAL FLUX(lm)	1289.37	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,19.7
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.10

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:2019-5-10

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

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

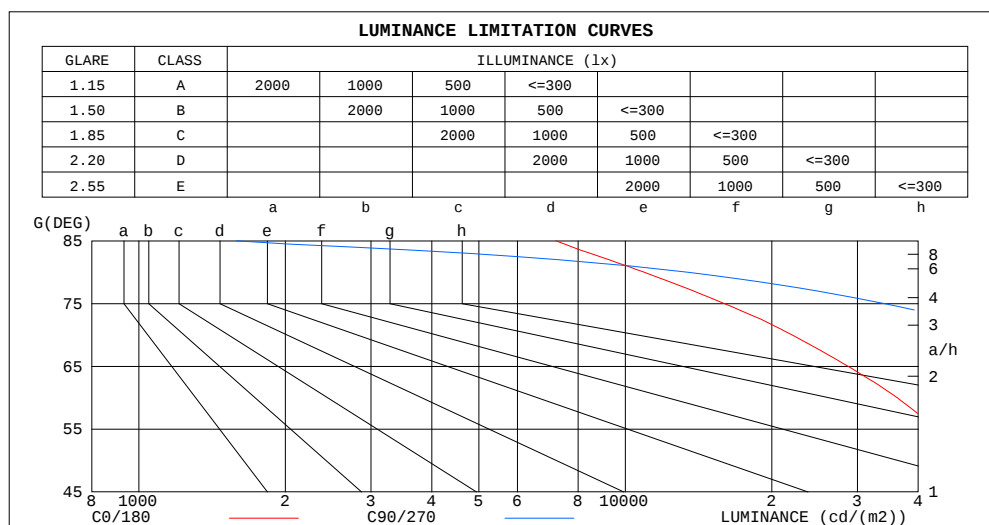
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	498.9	734.1	821.7	732.1	485.3	288.2	247.1	294.2	0- 10	48.37	48.37	3.75, 3.75
20	477.8	879.4	946.3	878.2	453.8	199.0	184.9	205.4	10- 20	148.7	197.1	15.3, 15.3
30	429.8	897.8	963.1	868.5	370.4	153.8	141.8	160.8	20- 30	240.3	437.4	33.9, 33.9
40	277.5	825.2	946.1	754.1	209.9	113.3	105.8	120.1	30- 40	294.9	732.3	56.8, 56.8
50	143.9	571.8	682.4	451.6	120.3	77.58	74.80	84.15	40- 50	272.8	1005	78, 78
60	78.71	244.2	314.5	183.1	63.77	44.68	46.37	51.70	50- 60	177.9	1183	91.7, 91.7
70	32.77	72.87	96.96	51.77	24.66	20.34	21.82	24.16	60- 70	80.41	1263	98, 98
80	8.261	10.06	10.30	5.402	4.733	5.451	6.660	7.525	70- 80	23.29	1287	99.8, 99.8
90	0.6244	0.4540	0.4355	0.4614	0.7070	1.448	1.693	1.092	80- 90	2.681	1289	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: 2019-5-10

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

LUMINANCE LIMITATION CURVES

NAME: VN-TL0020-51 BLACK 80 3000K 25*75	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:90 3000K 25*75	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	7200	1588
80	10940	13420
75	15977	34050
70	22032	64157
65	28722	99634
60	36202	142371
55	43444	190760
50	51482	240254
45	63626	272053

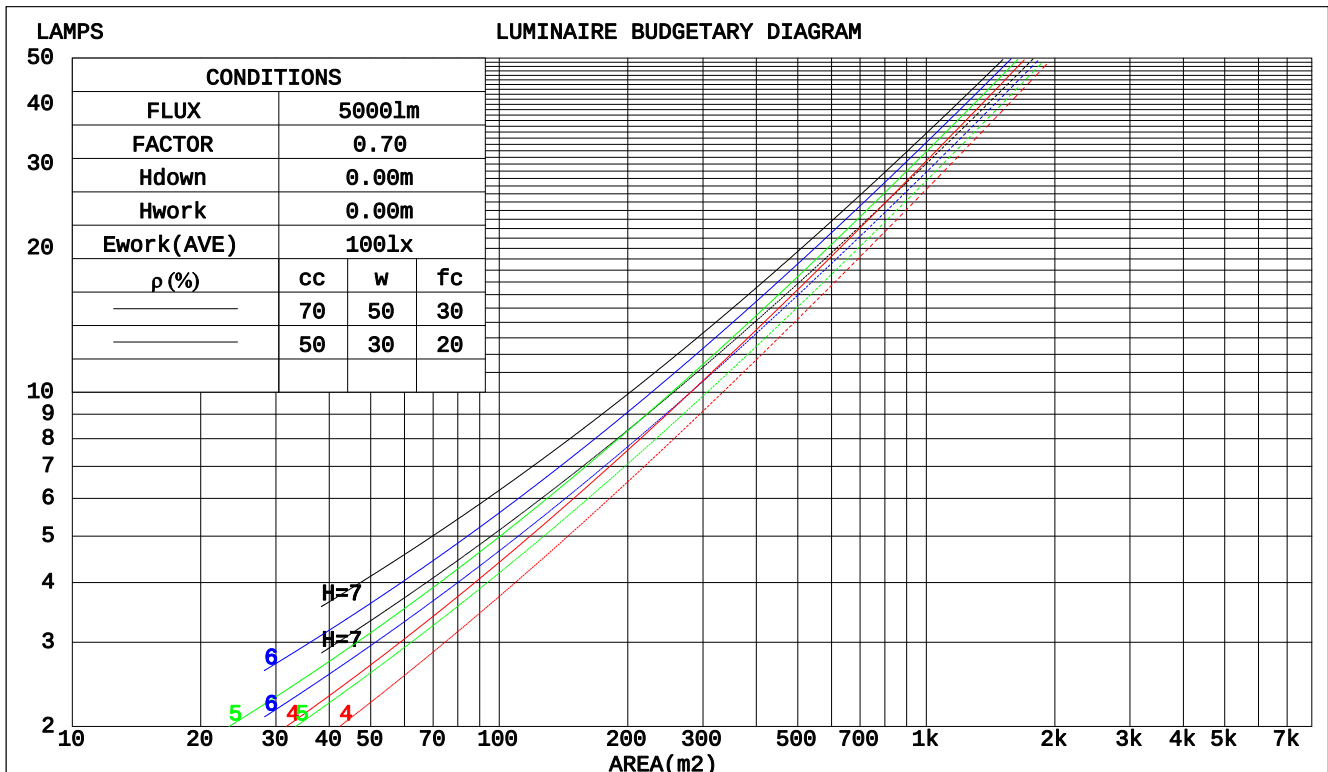
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:XYJ
 Test Date:2019-5-10

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

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: VN-TL020-51 BLACK 80 3000K 25*75	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:90 3000K 25*75	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

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	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	1.07	1.04	1.01	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.93	.92	.90	.88
2.0	.96	.90	.85	.94	.89	.84	.90	.86	.82	.87	.84	.80	.84	.81	.79	.77
3.0	.85	.78	.73	.84	.77	.72	.81	.76	.71	.78	.74	.70	.76	.72	.69	.67
4.0	.77	.69	.63	.75	.68	.63	.73	.67	.62	.71	.65	.61	.69	.64	.60	.58
5.0	.69	.61	.55	.68	.60	.55	.66	.59	.54	.64	.58	.54	.62	.57	.53	.51
6.0	.63	.54	.49	.62	.54	.48	.60	.53	.48	.58	.52	.48	.57	.51	.47	.45
7.0	.57	.49	.43	.56	.49	.43	.55	.48	.43	.53	.47	.42	.52	.46	.42	.40
8.0	.52	.44	.39	.51	.44	.39	.50	.43	.38	.49	.43	.38	.48	.42	.38	.36
9.0	.48	.40	.35	.47	.40	.35	.46	.39	.35	.45	.39	.35	.44	.39	.34	.33
10.0	.44	.37	.32	.44	.37	.32	.43	.36	.32	.42	.36	.31	.41	.35	.31	.30



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2019-5-10

```

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:

```

WEC AND CCEC

NAME: VN-TL0020-51 BLACK 80 3000K 25*75	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:90 3000K 25*75	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	.247	.141	.045	.240	.137	.044	.227	.131	.042	.216	.124	.040	.205	.119	.038		
2.0	.242	.133	.041	.236	.130	.040	.225	.125	.039	.215	.120	.038	.205	.116	.037		
3.0	.231	.123	.037	.226	.121	.036	.216	.117	.036	.207	.113	.035	.198	.110	.034		
4.0	.218	.114	.033	.214	.112	.033	.205	.109	.032	.197	.106	.032	.189	.103	.031		
5.0	.206	.105	.030	.202	.104	.030	.194	.101	.030	.187	.099	.029	.180	.096	.029		
6.0	.194	.097	.028	.190	.096	.028	.183	.094	.027	.177	.092	.027	.171	.090	.027		
7.0	.183	.090	.026	.180	.089	.025	.173	.088	.025	.168	.086	.025	.162	.084	.025		
8.0	.173	.084	.024	.170	.084	.024	.164	.082	.023	.159	.080	.023	.154	.079	.023		
9.0	.163	.079	.022	.160	.078	.022	.155	.077	.022	.151	.076	.022	.146	.074	.021		
10.0	.154	.074	.021	.152	.073	.020	.148	.072	.020	.143	.071	.020	.139	.070	.020		

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	.176	.157	.139	.151	.134	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016	
2.0	.166	.132	.104	.142	.114	.090	.097	.079	.063	.056	.046	.037	.018	.015	.012	
3.0	.157	.114	.080	.135	.098	.069	.092	.068	.049	.053	.040	.029	.017	.013	.009	
4.0	.149	.100	.063	.128	.087	.055	.088	.060	.038	.051	.035	.023	.016	.012	.007	
5.0	.142	.090	.051	.122	.078	.044	.084	.054	.031	.049	.032	.019	.016	.010	.006	
6.0	.136	.081	.042	.117	.070	.037	.080	.049	.026	.047	.029	.015	.015	.009	.005	
7.0	.129	.074	.035	.111	.064	.031	.077	.045	.022	.045	.027	.013	.014	.009	.004	
8.0	.124	.068	.030	.106	.059	.026	.074	.042	.019	.043	.025	.011	.014	.008	.004	
9.0	.118	.063	.026	.102	.055	.023	.070	.039	.016	.041	.023	.010	.013	.007	.003	
10.0	.113	.059	.023	.097	.051	.020	.068	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2019-5-10

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

UGR(Unified Glare Rating) Table

NAME: VN-TL0020-51 BLACK 80 3000K 25*75						TYPE:LED TRACK LIGHT				WEIGHT:	
SPEC.:90 3000K 25*75						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	28.0	29.4	28.3	29.6	29.8	32.7	34.1	33.0	34.3	34.5
	3H	28.1	29.3	28.4	29.6	29.8	33.0	34.2	33.3	34.4	34.7
	4H	28.1	29.2	28.4	29.5	29.7	32.9	34.1	33.2	34.4	34.6
	6H	28.0	29.1	28.3	29.3	29.6	32.9	34.0	33.2	34.2	34.5
	8H	27.9	29.0	28.3	29.3	29.6	32.8	33.9	33.1	34.1	34.4
	12H	27.9	28.9	28.2	29.2	29.5	32.8	33.8	33.1	34.1	34.4
4H	2H	28.8	29.9	29.1	30.2	30.4	32.7	33.9	33.0	34.1	34.3
	3H	28.9	29.9	29.2	30.2	30.5	33.0	34.0	33.3	34.3	34.6
	4H	28.9	29.8	29.2	30.1	30.4	33.0	33.9	33.4	34.2	34.6
	6H	28.8	29.6	29.2	30.0	30.3	32.9	33.8	33.3	34.1	34.5
	8H	28.8	29.5	29.2	29.9	30.3	32.9	33.7	33.3	34.0	34.4
	12H	28.8	29.4	29.2	29.8	30.2	32.9	33.5	33.3	33.9	34.3
8H	4H	28.9	29.6	29.3	30.0	30.4	32.9	33.6	33.3	34.0	34.4
	6H	28.8	29.5	29.3	29.9	30.3	32.9	33.5	33.3	33.9	34.3
	8H	28.8	29.4	29.3	29.8	30.2	32.8	33.4	33.3	33.8	34.2
	12H	28.8	29.2	29.3	29.7	30.2	32.8	33.2	33.3	33.7	34.2
12H	4H	28.8	29.5	29.3	29.9	30.3	32.9	33.5	33.3	33.9	34.3
	6H	28.8	29.3	29.3	29.8	30.2	32.8	33.4	33.3	33.8	34.2
	8H	28.8	29.2	29.3	29.7	30.2	32.8	33.2	33.3	33.7	34.2
Variations with the observer position at spacings:											
S = 1.0H		+ 1.7 / - 2.3					+ 0.8 / - 1.0				
1.5H		+ 1.9 / - 2.9					+ 0.6 / - 0.9				
2.0H		+ 2.8 / - 3.8					+ 1.8 / - 2.5				

CIE Pub.117, 1289 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 0.9$)

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2019-5-10

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

UTILIZATION FACTORS TABLE

NAME: VN-TL0020-51 BLACK 80 3000K 25*75	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:90 3000K 25*75	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

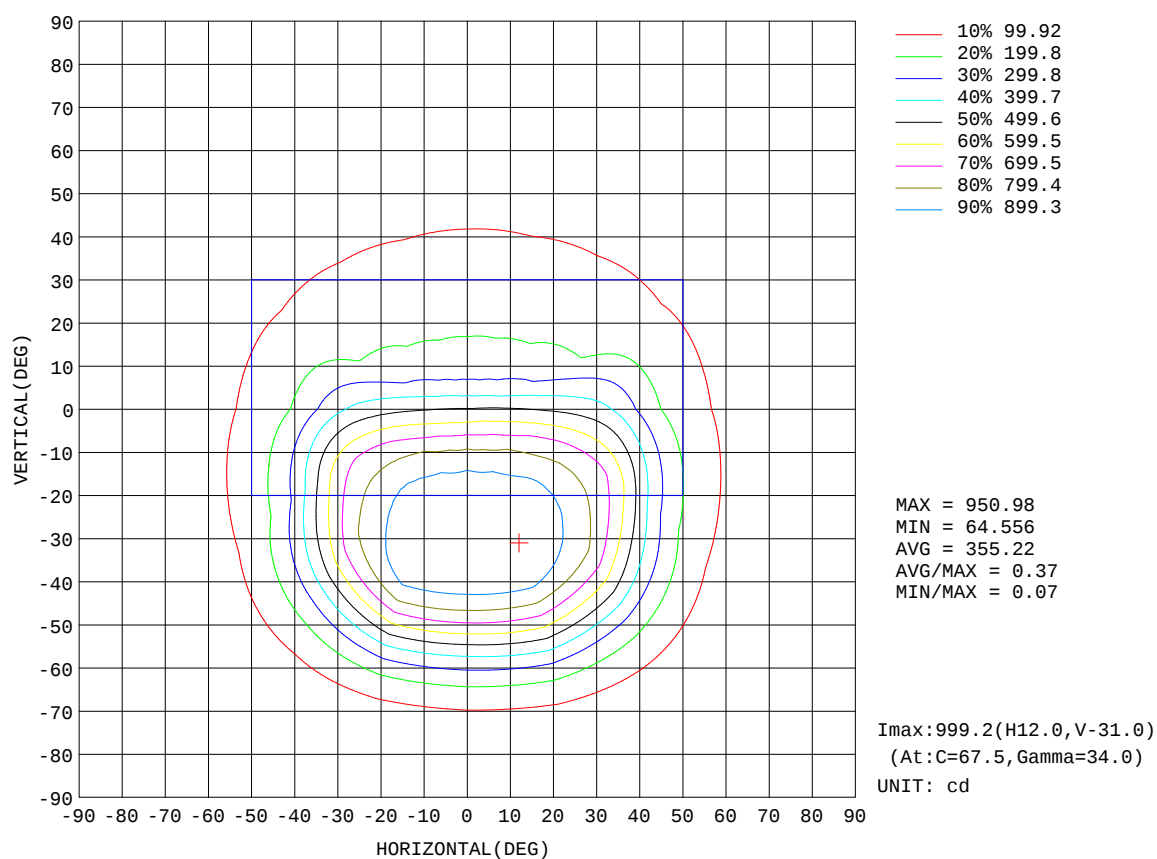
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	64	54	47	63	53	47	62	53	47	41
0.80	75	64	58	74	64	58	72	63	57	51
1.00	83	74	67	82	73	67	80	74	67	61
1.25	90	81	75	89	81	75	86	79	74	68
1.50	94	86	81	93	86	80	90	84	79	73
2.00	100	94	88	99	92	88	96	90	86	79
2.50	103	97	92	102	96	91	98	93	90	82
3.00	106	101	96	104	99	95	100	96	93	85
4.00	109	105	101	107	103	100	103	100	97	89
5.00	111	107	104	109	105	102	104	102	99	91
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:2019-5-10

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

ISOCANDELA DIAGRAM

NAME: VN-TL0020-51 BLACK 80 3000K 25*75	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:90 3000K 25*75	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

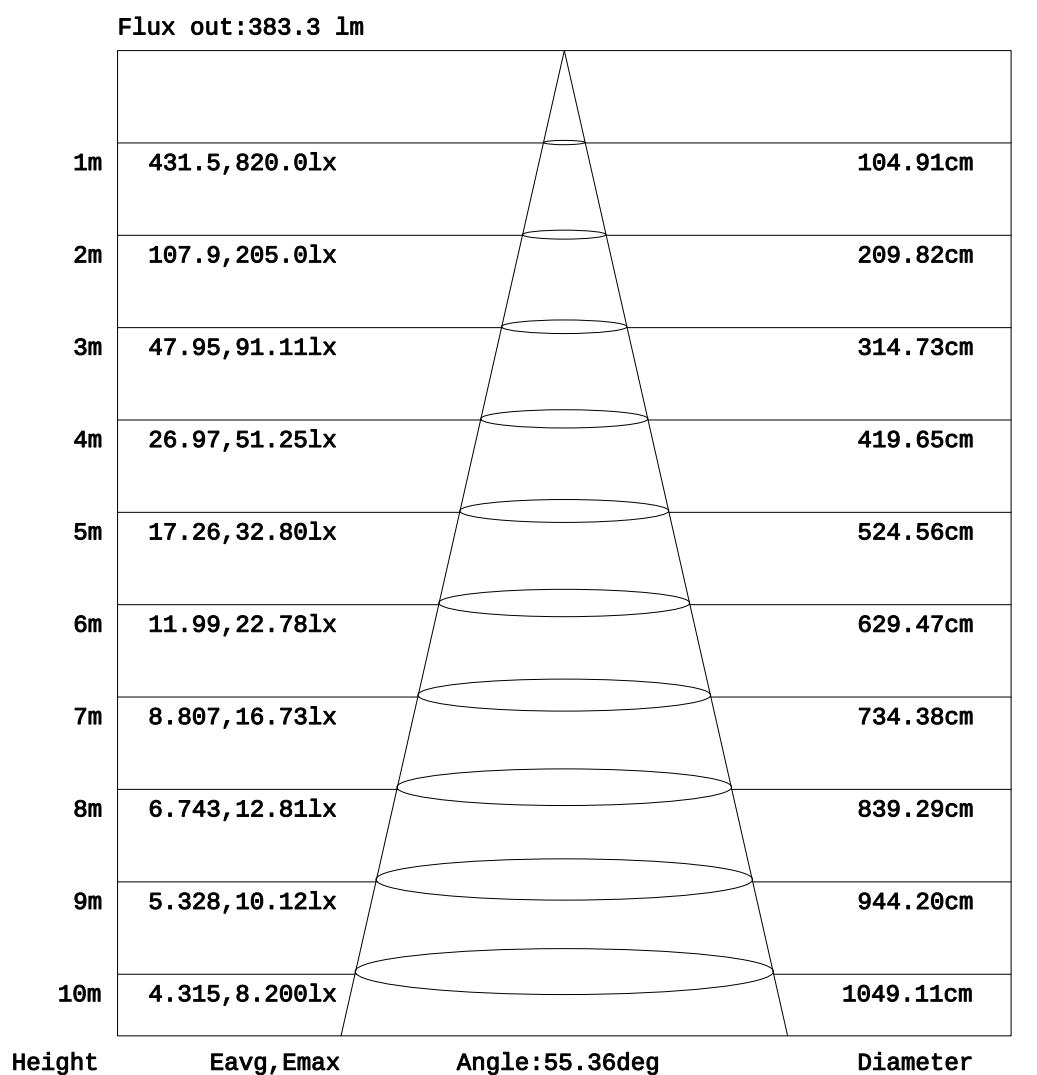


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2019-5-10

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

AAI Figure

NAME: VN-TL0020-51 BLACK 80 3000K 25*75	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:90 3000K 25*75	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:



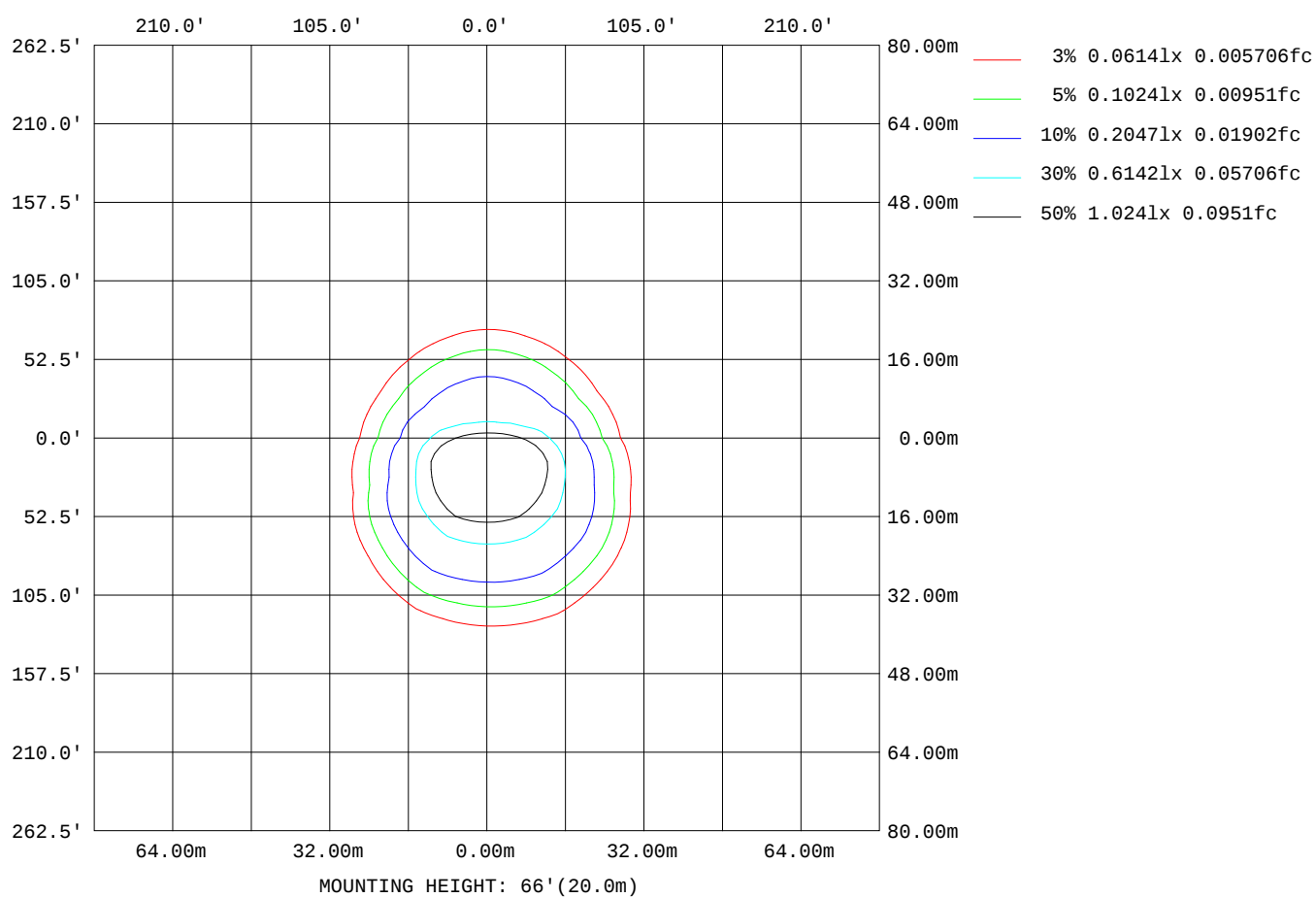
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2019-5-10

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

ISOLUX DIAGRAM

NAME: VN-TL0020-51 BLACK 80 3000K 25*75	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:90 3000K 25*75	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:2019-5-10

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

LED Avg.L Report

NAME: VN-TL0020-51 BLACK 80 3000K 25*75	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:90 3000K 25*75	DIM.:	SERIAL No.:
MFR.: 1	SUR.:	Shielding Angle:

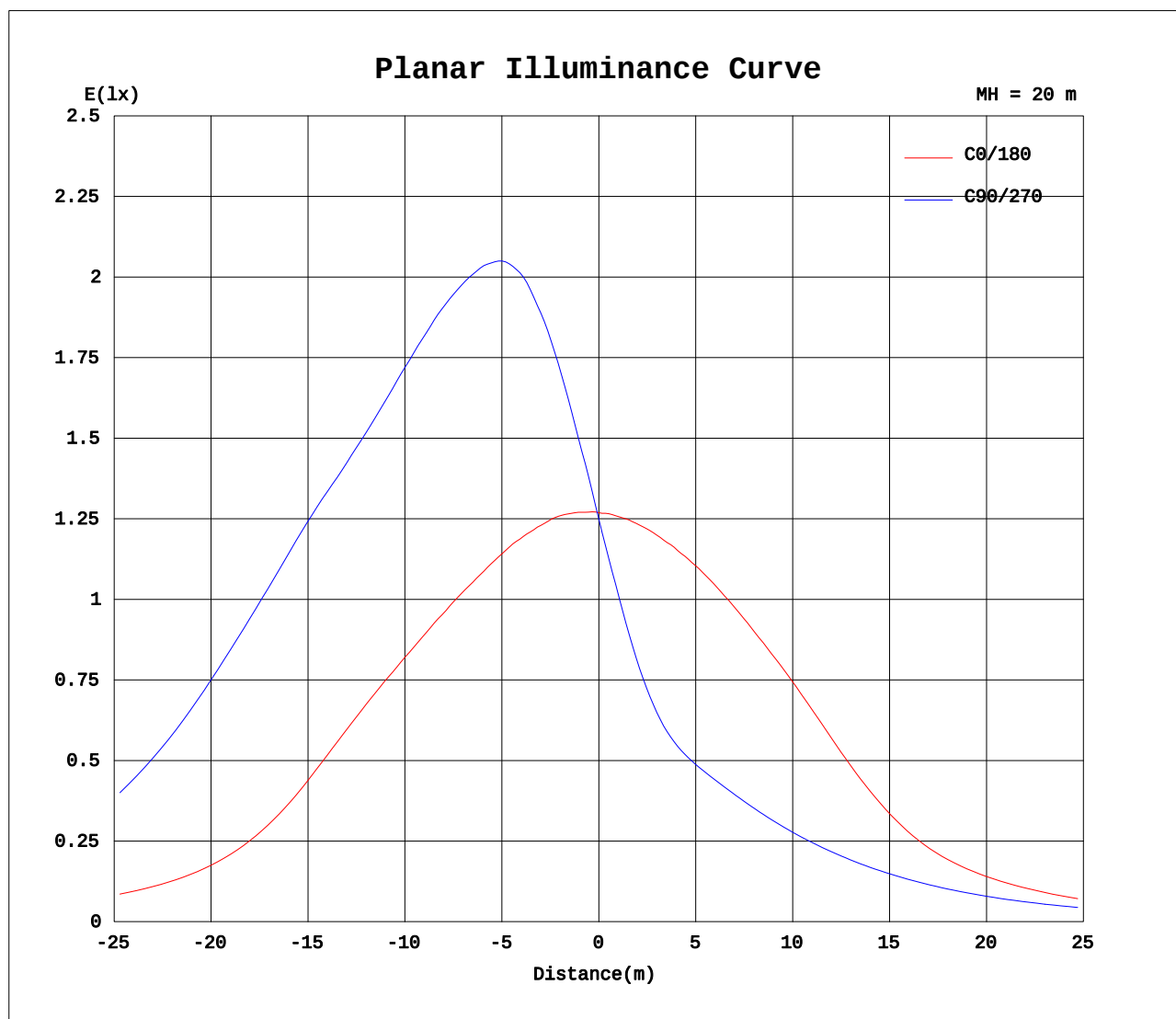
AvgL	cd/m2
L_0~180(65)av	25290
L_0~180(75)av	13242
L_0~180(85)av	4632
L_90~270(65)av	58647
L_90~270(75)av	22834
L_90~270(85)av	3759
L_45(65)av	41532
L_45(75)av	17468
L_45(85)av	4217

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:XYJ
Test Date:2019-5-10

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:5.190m [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: 2019-5-10

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

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: VN-TL020-51 BLACK 80 3000K 25*75	TYPE:LED TRACK LIGHT	WEIGHT:
SPEC.:90 3000K 25*75	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: 2019-5-10

```

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:

```