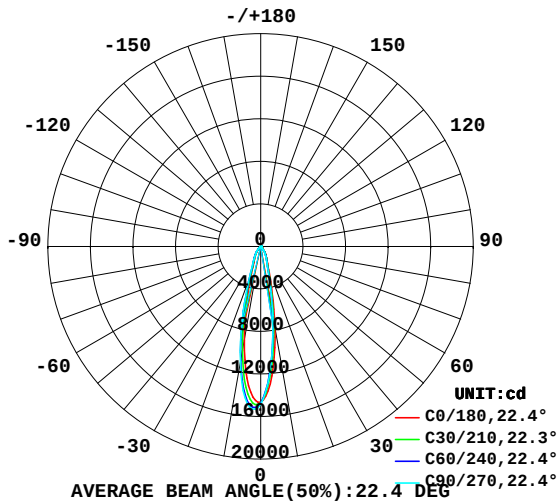


LUMINAIRE PHOTOMETRIC TEST REPORT

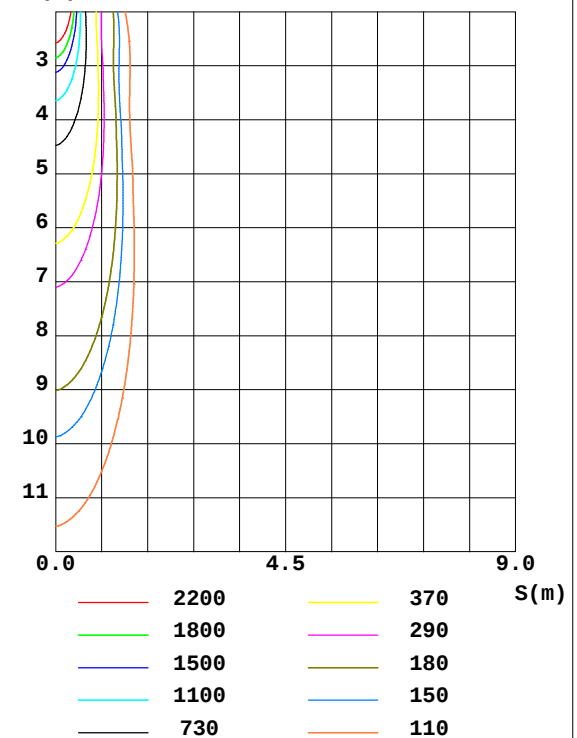
Test:U:222.0V I:0.1930A P:41.30W PF:0.9610 Lamp Flux:3867.02x1 lm		
NAME: LED Track Light	TYPE:LED	
MFR.: shenzhen powerstar technology co.,ltd		

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 93.63 lm/W
MODEL	CRI80-3000K-40W	Imax(cd)	15309	S/MH(C0/180)	0.36	
NOMINAL POWER(W)	42	LOR(%)	100.0	S/MH(C90/270)	0.31	
RATED VOLTAGE(V)	222	TOTAL FLUX(lm)	3867.0	η UP, DN(C0-180)	0.6, 41.3	
NOMINAL FLUX(lm)	3867.02	CIE CLASS	DIRECT	η UP, DN(C180-360)	1.0, 57.1	
LAMPS INSIDE	1	η up(%)	1.6	CIBSE SHR NOM	0.00	
TEST VOLTAGE(V)	222.1	η down(%)	98.4	CIBSE SHR MAX	1.00	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2015-12-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.267
Humidity: 65.0%
Test Distance: 8.000m [K=0.6625]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	777.0	682.6	661.0	720.4	897.6	1042	1107	1014	0- 10	1089	1089	28.2,28.2
20	210.1	189.7	182.1	191.7	239.0	284.9	315.4	278.5	10- 20	1304	2393	61.9,61.9
30	104.4	97.13	90.07	92.17	108.1	117.0	120.2	114.9	20- 30	703.1	3096	80.1,80.1
40	36.80	32.03	28.82	31.01	42.97	54.52	56.63	49.11	30- 40	449.4	3545	91.7,91.7
50	8.469	6.770	5.998	7.080	10.51	12.93	13.65	11.84	40- 50	166.6	3712	96,96
60	2.671	2.475	2.380	2.462	2.932	3.128	3.184	3.027	50- 60	43.26	3755	97.1,97.1
70	1.826	1.793	1.742	1.767	2.130	2.159	2.147	2.079	60- 70	22.56	3778	97.7,97.7
80	0.9301	1.165	1.098	1.169	1.478	1.843	1.707	1.670	70- 80	18.25	3796	98.2,98.2
90	0.3764	0.3707	0.3635	0.3506	0.8226	0.9266	0.9601	0.8623	80- 90	10.71	3807	98.4,98.4
100	0.4413	0.4682	0.4418	0.4470	0.8273	0.8115	0.8009	0.8020	90-100	6.520	3813	98.6,98.6
110	0.5706	0.6036	0.5761	0.5898	0.9193	0.9011	0.8875	0.8897	100-110	7.243	3821	98.8,98.8
120	0.6993	0.7065	0.6861	0.6786	1.112	1.070	1.054	1.071	110-120	8.026	3829	99,99
130	0.8308	0.8321	0.8079	0.7767	1.579	1.505	1.480	1.521	120-130	9.024	3838	99.2,99.2
140	1.026	1.022	0.9768	0.9371	1.949	1.915	1.894	1.898	130-140	10.23	3848	99.5,99.5
150	1.095	1.087	1.039	1.015	1.695	1.725	1.707	1.668	140-150	9.076	3857	99.7,99.7
160	1.106	1.119	1.084	1.058	1.290	1.304	1.273	1.251	150-160	5.928	3863	99.9,99.9
170	1.090	1.073	1.080	1.034	1.117	1.090	1.073	1.033	160-170	3.204	3866	100,100
180	1.043	1.002	1.010	0.9667	1.051	1.000	1.007	0.9675	170-180	0.9867	3867	100,100
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

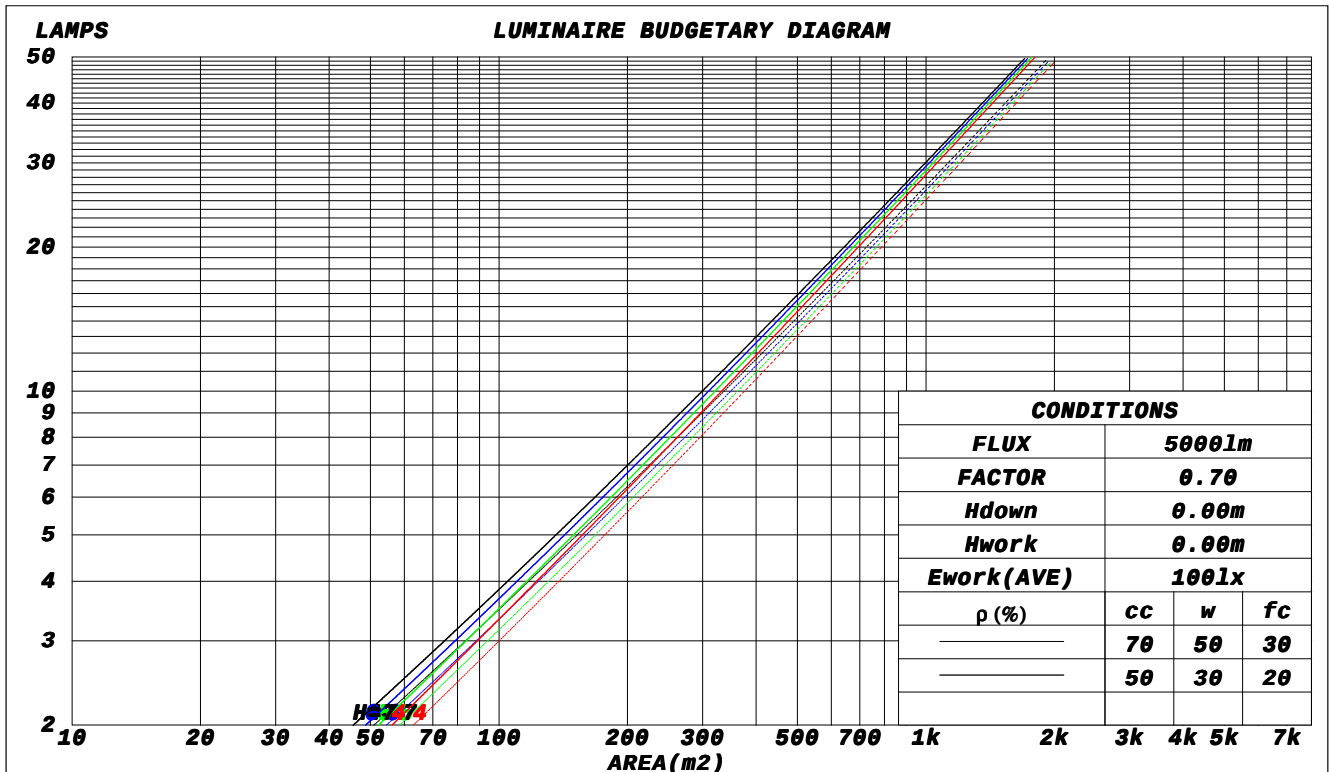
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2015-12-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.6625]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:222.0V I:0.1930A P:41.30W PF:0.9610 Lamp Flux:3867.02x1 lm		
NAME: LED Track Light	TYPE:LED	
MFR.: shenzhen powerstar technology co.,ltd		

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	1.10	1.10	1.10	1.05	1.05	1.05	1.01	1.01	1.01	.98
1.0	1.11	1.09	1.07	1.09	1.07	1.05	1.05	1.03	1.02	1.01	.99	.98	.97	.96	.95	.93
2.0	1.05	1.01	.98	1.03	.98	.97	.99	.97	.95	.96	.94	.92	.93	.92	.90	.89
3.0	.99	.95	.91	.98	.94	.90	.95	.92	.89	.92	.90	.87	.90	.88	.86	.84
4.0	.94	.89	.86	.93	.88	.85	.91	.87	.84	.88	.85	.83	.86	.84	.82	.80
5.0	.89	.85	.81	.88	.84	.80	.87	.83	.80	.85	.81	.79	.83	.80	.78	.77
6.0	.85	.80	.77	.85	.80	.77	.83	.79	.76	.82	.78	.75	.80	.77	.75	.73
7.0	.82	.77	.73	.81	.76	.73	.80	.76	.73	.79	.75	.72	.77	.74	.72	.70
8.0	.79	.74	.70	.78	.73	.70	.77	.73	.70	.76	.72	.69	.75	.71	.69	.68
9.0	.76	.71	.67	.75	.70	.67	.74	.70	.67	.73	.69	.67	.72	.69	.66	.65
10.0	.73	.68	.65	.72	.68	.65	.72	.67	.65	.71	.67	.64	.70	.67	.64	.63



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2015-12-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.6625]
 Remarks:

WEC AND CCEC

Test:U:222.0V I:0.1930A P:41.30W PF:0.9610 Lamp Flux:3867.02x1 lm		
NAME: LED Track Light	TYPE:LED	
MFR.: shenzhen powerstar technology co.,ltd		

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	.162	.092	.029	.154	.088	.028	.141	.081	.026	.129	.074	.024	.117	.068	.022		
2.0	.151	.083	.025	.145	.080	.025	.134	.074	.023	.123	.069	.022	.114	.064	.020		
3.0	.142	.075	.023	.137	.073	.022	.127	.069	.021	.118	.065	.020	.110	.061	.019		
4.0	.133	.069	.020	.129	.067	.020	.121	.064	.019	.113	.061	.018	.106	.058	.018		
5.0	.126	.064	.019	.122	.063	.018	.115	.060	.018	.108	.057	.017	.102	.054	.016		
6.0	.119	.060	.017	.116	.058	.017	.109	.056	.016	.104	.054	.016	.098	.052	.015		
7.0	.113	.056	.016	.110	.055	.016	.105	.053	.015	.099	.051	.015	.095	.049	.014		
8.0	.108	.053	.015	.105	.052	.015	.100	.050	.014	.096	.048	.014	.091	.047	.014		
9.0	.103	.050	.014	.100	.049	.014	.096	.047	.013	.092	.046	.013	.088	.045	.013		
10.0	.098	.047	.013	.096	.046	.013	.092	.045	.013	.088	.044	.012	.085	.043	.012		

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	.202	.202	.202	.173	.173	.173	.118	.118	.118	.068	.068	.068	.022	.022	.022	
1.0	.182	.169	.158	.156	.145	.136	.107	.100	.094	.061	.058	.055	.020	.019	.018	
2.0	.166	.145	.127	.142	.125	.110	.097	.086	.077	.056	.050	.045	.018	.016	.015	
3.0	.152	.126	.105	.130	.108	.091	.089	.075	.064	.052	.044	.037	.017	.014	.012	
4.0	.140	.111	.088	.120	.096	.076	.083	.067	.054	.048	.039	.032	.015	.013	.010	
5.0	.131	.099	.075	.112	.085	.065	.077	.060	.046	.045	.035	.027	.014	.011	.009	
6.0	.122	.089	.065	.105	.077	.057	.073	.054	.040	.042	.032	.024	.014	.010	.008	
7.0	.115	.081	.057	.099	.070	.050	.069	.049	.035	.040	.029	.021	.013	.010	.007	
8.0	.109	.075	.051	.094	.065	.044	.065	.045	.032	.038	.027	.019	.012	.009	.006	
9.0	.104	.069	.046	.089	.060	.040	.062	.042	.028	.036	.025	.017	.012	.008	.006	
10.0	.099	.065	.042	.085	.056	.037	.059	.039	.026	.034	.023	.015	.011	.008	.005	

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2015-12-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.6625]
Remarks:

Uncorrected UGR Table

Test:U:222.0V I:0.1930A P:41.30W PF:0.9610 Lamp Flux:3867.02x1 lm										
NAME: LED Track Light					TYPE:LED					
MFR.: shenzhen powerstar technology co.,ltd										
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	13.3	14.0	13.5	14.2	14.4	12.5	13.3	12.7	13.4	13.6
3H	13.3	14.0	13.5	14.2	14.4	12.5	13.2	12.8	13.5	13.7
4H	13.3	14.0	13.6	14.2	14.5	12.6	13.3	12.9	13.5	13.8
6H	13.4	14.0	13.7	14.3	14.5	12.7	13.4	13.1	13.7	13.9
8H	13.4	14.0	13.7	14.3	14.6	12.8	13.4	13.1	13.7	14.0
12H	13.4	14.0	13.8	14.3	14.6	12.8	13.4	13.2	13.7	14.0
4H 2H	13.1	13.8	13.4	14.0	14.2	12.3	13.0	12.6	13.3	13.5
3H	13.2	13.8	13.5	14.1	14.4	12.5	13.1	12.8	13.3	13.6
4H	13.3	13.8	13.7	14.2	14.5	12.6	13.2	13.0	13.5	13.8
6H	13.4	13.9	13.8	14.3	14.7	12.9	13.4	13.3	13.7	14.1
8H	13.5	14.0	13.9	14.3	14.7	13.0	13.4	13.4	13.8	14.2
12H	13.6	14.0	14.0	14.4	14.8	13.1	13.5	13.5	13.9	14.3
8H 4H	13.3	13.7	13.7	14.1	14.5	12.7	13.1	13.1	13.5	13.9
6H	13.5	13.9	14.0	14.3	14.8	13.0	13.4	13.5	13.8	14.3
8H	13.7	14.0	14.2	14.5	14.9	13.2	13.5	13.7	14.0	14.4
12H	13.9	14.1	14.4	14.6	15.1	13.3	13.6	13.8	14.1	14.6
12H 4H	13.3	13.7	13.7	14.1	14.5	12.6	13.1	13.1	13.5	13.9
6H	13.5	13.9	14.0	14.3	14.8	13.0	13.4	13.5	13.8	14.3
8H	13.7	14.0	14.2	14.5	15.0	13.2	13.5	13.7	14.0	14.5
Variations with the observer position at spacings:										
S = 1.0H	+ 2.8 / - 3.4					+ 2.0 / - 2.7				
1.5H	+ 4.7 / - 3.5					+ 3.8 / - 2.7				
2.0H	+ 3.7 / - 1.2					+ 3.0 / - 1.0				

CIE Pub.117 Corrected 3867 lm Total Lamp Luminous Flux. (8log(F/F0) = 4.7)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2015-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.6625]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:222.0V I:0.1930A P:41.30W PF:0.9610 Lamp Flux:3867.02x1 lm		
NAME: LED Track Light	TYPE:LED	
MFR.: shenzhen powerstar technology co.,ltd		

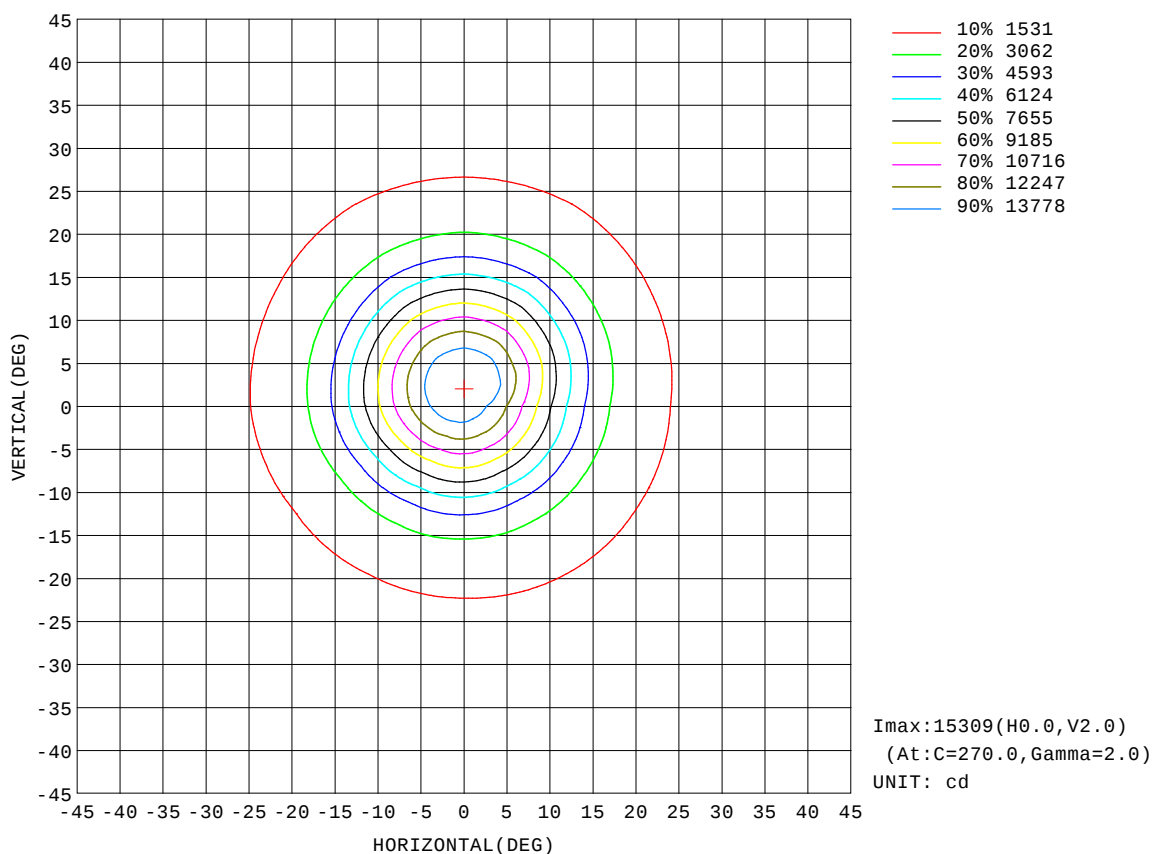
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	86	80	76	86	80	76	85	79	76	72
0.80	94	88	84	93	87	84	92	87	83	80
1.00	98	93	89	97	92	89	96	92	88	84
1.25	102	97	93	101	96	93	99	95	92	88
1.50	105	100	97	104	99	96	101	98	95	90
2.00	108	103	100	106	102	99	103	100	98	92
2.50	109	106	102	108	104	101	104	102	99	93
3.00	111	108	105	109	106	103	106	103	101	94
4.00	113	110	108	111	108	106	107	105	104	96
5.00	114	112	110	112	110	108	108	106	105	97
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2015-12-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.6625]
Remarks:

ISOCANDELA DIAGRAM

Test:U:222.0V I:0.1930A P:41.30W PF:0.9610 Lamp Flux:3867.02x1 lm		
NAME: LED Track Light	TYPE:LED	
MFR.: shenzhen powerstar technology co.,ltd		

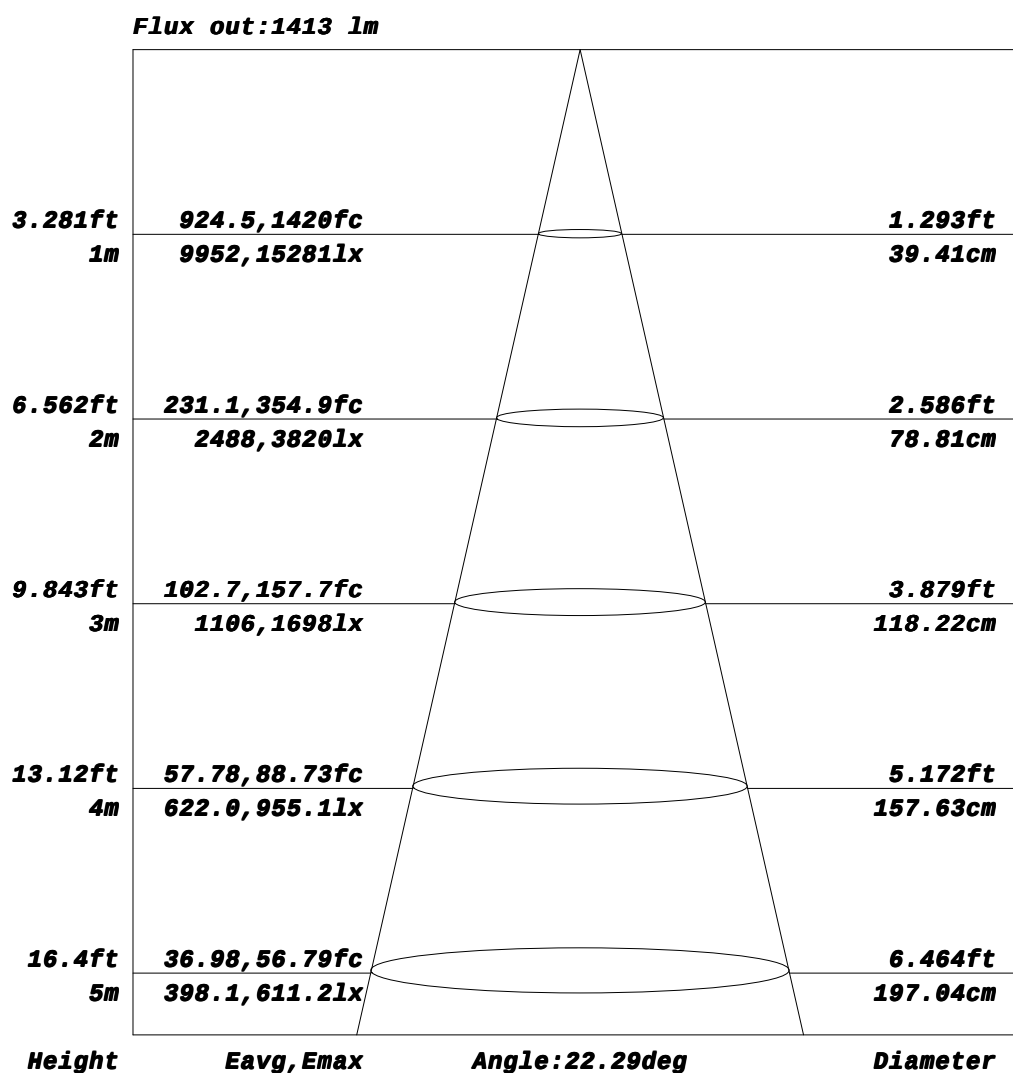


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2015-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.6625]
Remarks:

AAI Figure

Test:U:222.0V I:0.1930A P:41.30W PF:0.9610 Lamp Flux:3867.02x1 lm		
NAME: LED Track Light	TYPE: LED	
MFR.: shenzhen powerstar technology co.,ltd		



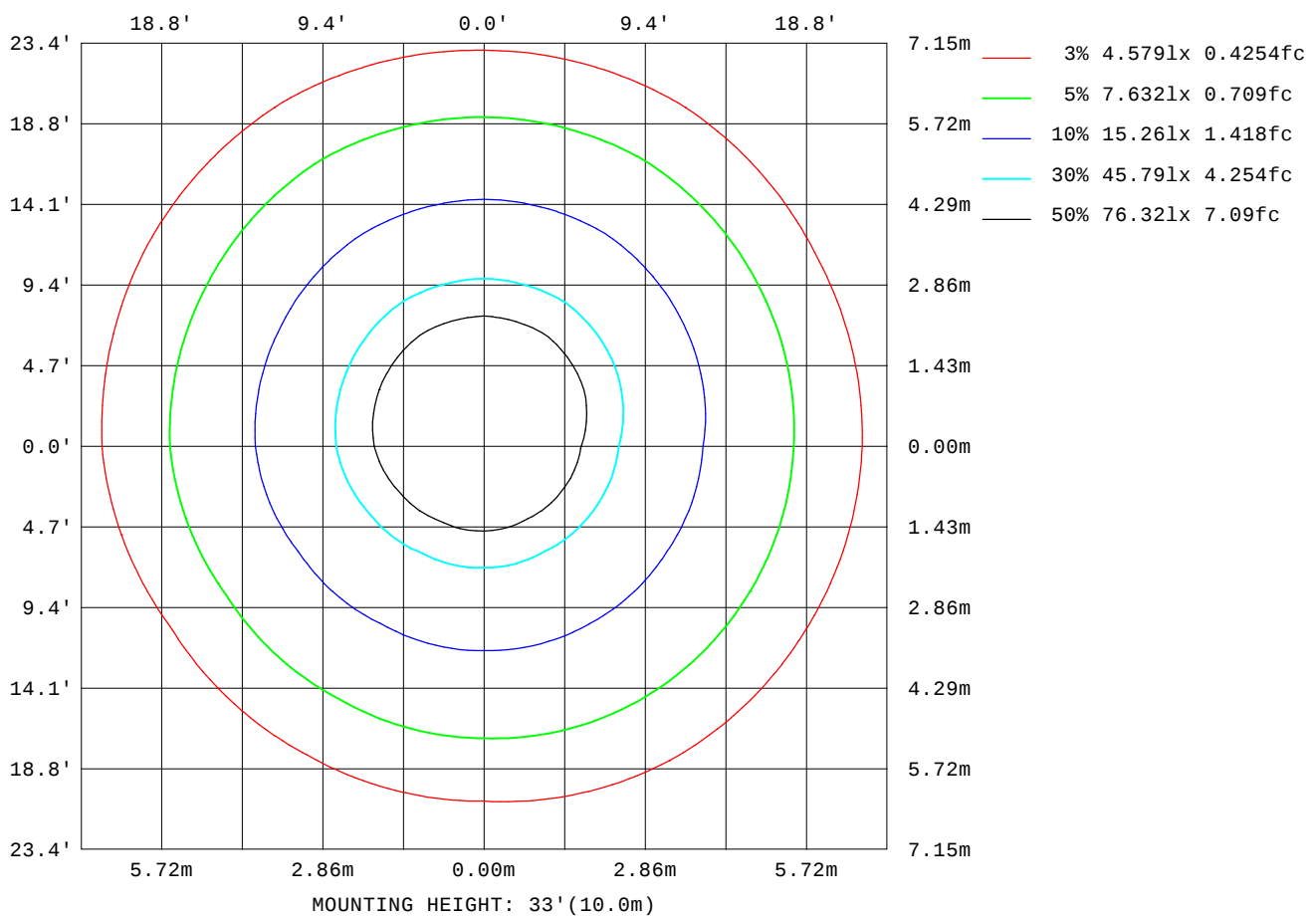
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2015-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.267
Humidity: 65.0%
Test Distance: 8.000m [K=0.6625]
Remarks:

ISOLUX DIAGRAM

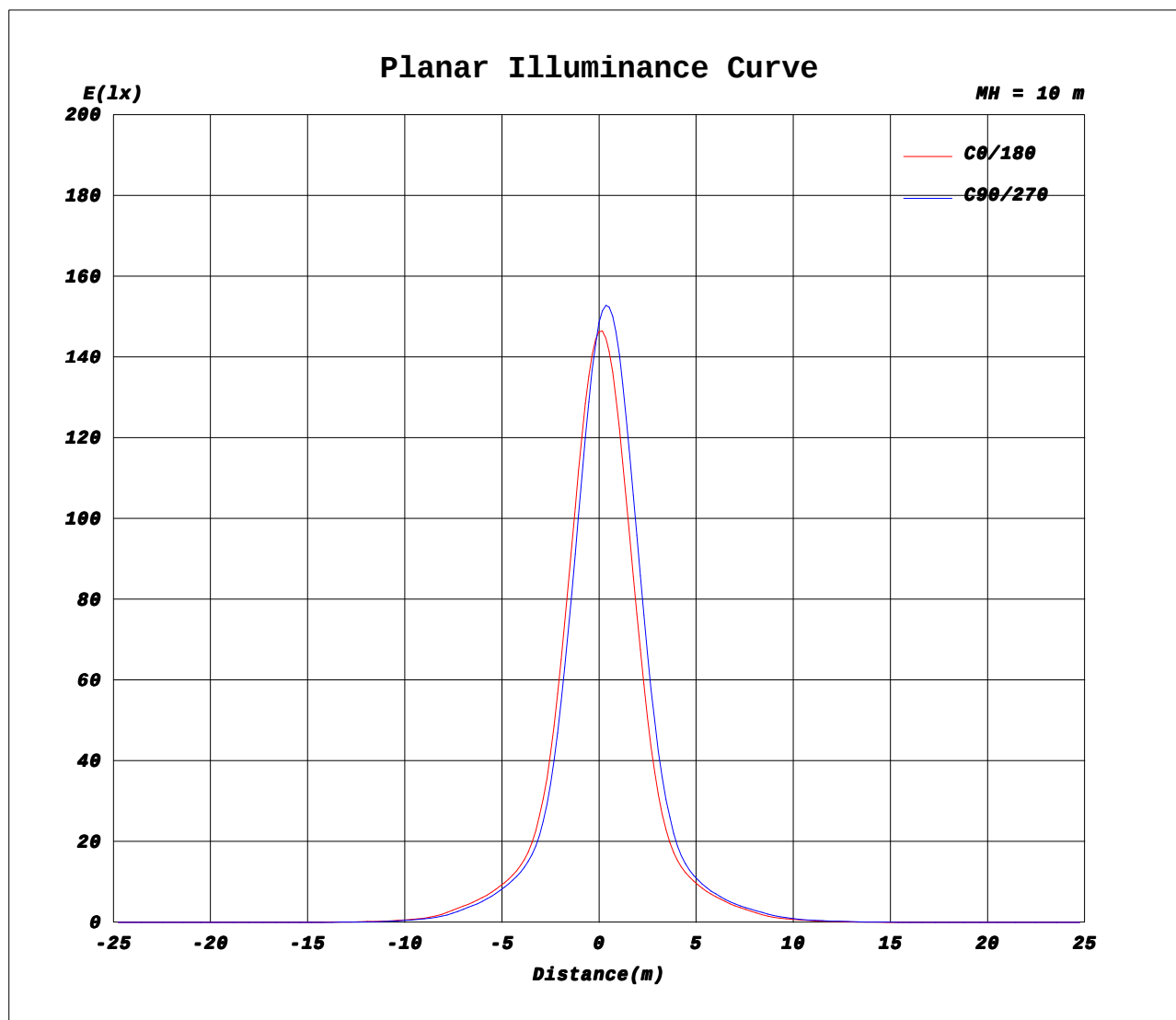
Test:U:222.0V I:0.1930A P:41.30W PF:0.9610 Lamp Flux:3867.02x1 lm		
NAME: LED Track Light	TYPE:LED	
MFR.: shenzhen powerstar technology co.,ltd		



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2015-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity: 65.0%
Test Distance: 8.000m [K=0.6625]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2015-12-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.267
Humidity: 65.0%
Test Distance: 8.000m [K=0.6625]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:222.0V I:0.1930A P:41.30W PF:0.9610 Lamp Flux:3867.02x1 lm											
NAME: LED Track Light						TYPE:LED					
MFR.: shenzhen powerstar technology co.,ltd											

Table--1

UNIT: ×10cd

C (DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330						
0	1463	1469	1472	1485	1485	1491	1463	1469	1472	1485	1485	1491						
5	1221	1161	1117	1120	1138	1215	1314	1394	1459	1479	1461	1375						
10	777	708	657	661	679	762	898	999	1085	1107	1075	953						
15	396	352	330	325	339	385	483	552	629	641	620	517						
20	210	194	186	182	184	200	239	267	302	315	301	255						
25	144	136	132	128	128	134	151	158	171	174	171	157						
30	104	99.2	95.0	90.1	89.5	94.8	108	113	121	120	119	111						
35	73.3	68.8	64.4	59.7	60.2	64.2	75.0	81.6	85.8	83.8	82.8	76.0						
40	36.8	33.6	30.4	28.8	28.8	33.2	43.0	52.0	57.0	56.6	53.0	45.2						
45	17.8	16.4	14.8	14.6	14.7	17.0	21.3	25.1	27.3	26.9	24.6	21.2						
50	8.47	7.31	6.24	6.00	6.39	7.77	10.5	12.3	13.5	13.7	12.8	10.9						
55	3.60	3.37	3.19	3.14	3.16	3.37	4.09	4.80	5.58	5.83	5.46	4.35						
60	2.67	2.53	2.42	2.38	2.40	2.53	2.93	3.06	3.19	3.18	3.13	2.92						
65	2.14	2.06	1.99	1.96	1.97	2.04	2.38	2.45	2.52	2.50	2.45	2.33						
70	1.83	1.82	1.77	1.74	1.75	1.78	2.13	2.15	2.17	2.15	2.11	2.05						
75	1.40	1.61	1.56	1.53	1.55	1.59	2.00	2.02	2.03	1.95	1.97	1.85						
80	0.93	1.21	1.13	1.10	1.12	1.21	1.48	1.82	1.87	1.71	1.81	1.53						
85	0.68	0.65	0.60	0.58	0.60	0.67	1.11	1.28	1.47	1.43	1.38	1.22						
90	0.38	0.37	0.37	0.36	0.36	0.34	0.82	0.88	0.97	0.96	0.89	0.83						
95	0.40	0.42	0.41	0.39	0.39	0.38	0.79	0.78	0.77	0.77	0.77	0.77						
100	0.44	0.47	0.46	0.44	0.45	0.44	0.83	0.81	0.81	0.80	0.80	0.80						
105	0.50	0.53	0.53	0.51	0.52	0.52	0.87	0.86	0.85	0.84	0.84	0.85						
110	0.57	0.60	0.61	0.58	0.58	0.60	0.92	0.91	0.90	0.89	0.89	0.89						
115	0.65	0.66	0.67	0.64	0.64	0.65	0.99	0.97	0.96	0.95	0.95	0.96						
120	0.70	0.70	0.71	0.69	0.67	0.68	1.11	1.08	1.06	1.05	1.06	1.08						
125	0.75	0.76	0.76	0.74	0.72	0.71	1.31	1.27	1.24	1.23	1.24	1.28						
130	0.83	0.84	0.83	0.81	0.78	0.77	1.58	1.52	1.49	1.48	1.50	1.55						
135	0.93	0.93	0.92	0.89	0.87	0.84	1.83	1.78	1.75	1.74	1.75	1.79						
140	1.03	1.05	1.00	0.98	0.95	0.92	1.95	1.92	1.91	1.89	1.90	1.90						
145	1.08	1.09	1.04	1.02	1.00	0.97	1.89	1.94	1.90	1.88	1.87	1.83						
150	1.09	1.11	1.06	1.04	1.03	1.00	1.70	1.72	1.73	1.71	1.69	1.64						
155	1.10	1.12	1.08	1.06	1.06	1.02	1.47	1.49	1.50	1.47	1.46	1.42						
160	1.11	1.14	1.10	1.08	1.08	1.03	1.29	1.30	1.31	1.27	1.26	1.24						
165	1.11	1.12	1.11	1.10	1.08	1.04	1.18	1.17	1.18	1.14	1.13	1.11						
170	1.09	1.08	1.06	1.08	1.05	1.02	1.12	1.09	1.09	1.07	1.04	1.03						
175	1.05	1.02	1.01	1.03	0.99	0.98	1.06	1.02	1.03	1.02	0.99	0.97						
180	1.04	1.00	1.00	1.01	0.97	0.97	1.05	1.00	1.00	1.01	0.97	0.96						

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2015-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity: 65.0%
Test Distance: 8.000m [K=0.6625]
Remarks: