

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STT25PC 20L 35K MD xx MW NL

Nominal 2.5 inch dia tracklight, medium beam, matte white finish with no lens

Test Number

SP-01056

Test Date

11/22/2020

The results contained in this report pertain only to this IES file.

Summary of Results

Power

Input Watts	13.4 W
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Lumen Output

Output Lumens	1078
Efficacy	80.48 lm/W

Luminous Dimensions

0° - 180° Size	-0.21
90° - 270° Size	-0.21
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.63
Two luminaires, plane 90°	0.62
Four luminaires	0.63

Full Beam Angle

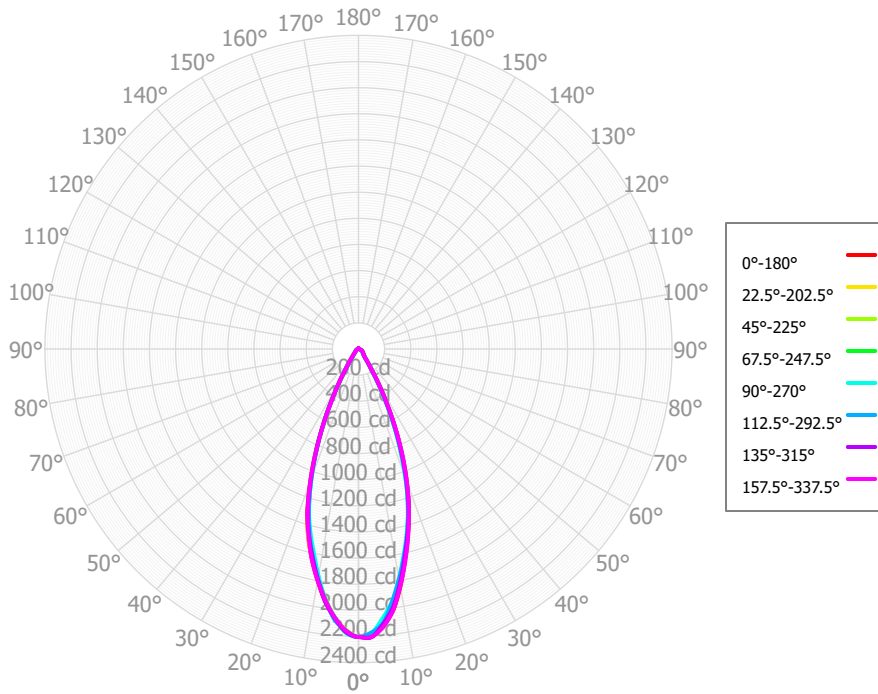
0° - 180°	39°
90° - 270°	39°

IES File Header Contents

Keyword	Value
TEST	SP-01056
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/22/2020
ISSUEDATE	11/22/2022
LUMCAT	STT25PC 20L 35K MD xx MW NL
LUMINAIRE	Nominal 2.5 inch dia tracklight, medium beam, matte white finish with no lens
OTHER	Open aperture
OTHER	Beam Angle: 39 degrees
OTHER	Reference Project SL468
LAMPCAT	N/A
LAMP	N/A
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	80
_CCTMULT	27K x 0.96, 30K x 0.98, 40K x 1.03
_LAMPMULT	10L x 0.51

STT25PC 20L 35K MD xx MW NL

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	192.60	17.86%	90.00° - 100.00°	2.12	0.20%
10.00° - 20.00°	398.06	36.91%	100.00° - 110.00°	2.09	0.19%
20.00° - 30.00°	291.32	27.01%	100.00° - 120.00°	4.00	0.37%
30.00° - 40.00°	84.27	7.81%	120.00° - 130.00°	1.81	0.17%
40.00° - 50.00°	36.59	3.39%	130.00° - 140.00°	1.59	0.15%
50.00° - 60.00°	28.55	2.65%	140.00° - 150.00°	1.36	0.13%
60.00° - 70.00°	22.32	2.07%	150.00° - 160.00°	1.04	0.10%
70.00° - 80.00°	9.33	0.87%	160.00° - 170.00°	0.62	0.06%
80.00° - 90.00°	2.64	0.24%	170.00° - 180.00°	0.21	0.02%
0.00° - 90.00°	1065.68	98.82%	0.00° - 180.00°	1078.42	100.00%

Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°	112.50°	135.00°	157.50°	180.00°	202.50°	225.00°	247.50°	270.00°	292.50°	315.00°	337.50°	360.00°
0.00°	2204.78	2204.78	2204.78	2204.78	2204.78	2204.78	2204.78	2204.78	2204.78	2204.78	2204.78	2204.78	2204.78	2204.78	2204.78	2204.78	2204.78
2.50°	2207.77	2187.92	2193.13	2197.11	2182.26	2158.86	2171.17	2159.76	2161.83	2153.09	2158.88	2174.85	2176.18	2174.68	2209.74	2205.99	2207.77
5.00°	2132.10	2142.23	2120.99	2101.83	2075.63	2083.97	2069.92	2066.45	2064.04	2078.16	2065.42	2068.42	2064.49	2113.44	2118.70	2140.24	2132.10
7.50°	2021.71	1991.36	1992.05	1976.63	1954.69	1936.35	1953.13	1941.30	1949.11	1938.51	1928.91	1942.88	1941.12	1956.67	2001.85	2021.75	2021.71
10.00°	1846.94	1833.26	1813.25	1805.88	1782.69	1786.08	1791.25	1800.57	1801.16	1793.19	1779.17	1772.36	1762.65	1788.65	1823.50	1841.79	1846.94
12.50°	1649.38	1637.39	1635.80	1622.43	1605.35	1624.14	1629.91	1650.23	1648.40	1640.52	1618.48	1606.29	1588.52	1617.04	1631.99	1658.41	1649.38
15.00°	1465.26	1444.30	1459.39	1444.67	1434.85	1454.71	1469.96	1477.57	1487.48	1487.38	1446.62	1449.35	1432.14	1445.10	1454.67	1471.38	1465.26
17.50°	1285.37	1263.07	1268.28	1268.29	1264.83	1257.86	1291.57	1292.77	1302.26	1282.35	1266.55	1272.32	1262.82	1254.26	1279.79	1279.46	1285.37
20.00°	1080.81	1074.00	1066.65	1058.34	1047.94	1057.11	1071.65	1076.82	1079.46	1075.72	1062.06	1059.03	1049.12	1062.33	1072.97	1082.89	1080.81
22.50°	869.67	856.93	858.21	841.66	828.91	844.27	854.39	845.47	858.08	854.01	841.20	847.63	837.71	851.86	861.58	878.04	869.67
25.00°	664.52	646.24	645.45	641.77	630.06	638.35	642.38	635.70	638.65	633.10	635.86	639.34	632.99	640.92	660.62	666.20	664.52
27.50°	460.70	455.65	459.70	444.57	432.41	451.55	451.54	435.26	449.30	454.53	439.73	450.14	442.36	460.12	460.77	476.98	460.70
30.00°	311.34	288.43	289.51	301.22	296.00	290.91	298.65	297.28	296.63	280.73	294.84	288.71	288.58	281.69	313.05	305.28	311.34
32.50°	172.32	184.46	185.91	164.96	162.97	192.88	183.05	182.69	189.05	197.02	176.74	171.70	165.60	189.10	169.09	192.05	172.32
35.00°	118.98	103.99	116.09	116.74	120.02	116.18	126.45	124.18	131.82	117.28	113.68	113.78	112.54	99.99	121.35	118.98	118.98
37.50°	78.51	80.57	82.62	76.92	78.92	85.55	84.64	84.43	92.51	88.48	76.70	74.63	72.76	80.75	78.19	82.25	78.51
40.00°	66.23	62.53	65.27	63.33	64.20	61.68	63.59	63.64	70.99	61.41	57.63	57.68	59.35	62.56	67.25	67.60	66.23
42.50°	5712	55.88	56.02	51.58	50.32	50.64	48.05	48.26	55.14	49.58	45.95	46.88	49.60	56.95	56.87	59.15	5712
45.00°	53.64	50.45	50.01	47.74	45.22	41.77	39.57	40.84	44.47	38.59	39.15	42.53	46.45	51.53	52.32	54.12	53.64
47.50°	50.63	47.27	45.83	44.20	40.31	36.53	33.28	35.31	36.75	33.09	34.15	38.30	43.14	47.74	47.86	50.07	50.63
50.00°	47.45	44.55	42.29	41.17	36.76	32.21	29.50	30.31	31.41	28.08	30.62	34.18	39.60	43.90	45.64	46.48	47.45
52.50°	44.25	42.59	40.51	38.15	33.34	29.30	26.41	25.41	26.76	25.76	27.56	30.80	36.05	39.72	43.26	43.02	44.25
55.00°	40.53	39.78	39.26	35.44	30.67	26.79	24.04	23.63	22.61	23.56	25.19	28.04	32.51	35.82	38.58	39.62	40.53
57.50°	36.79	35.73	37.09	32.78	28.21	24.82	22.77	22.37	20.76	21.92	23.01	25.71	29.44	33.42	34.14	36.80	36.79
60.00°	34.08	32.93	34.70	31.03	26.78	23.48	22.55	21.05	20.42	20.39	21.62	23.71	26.97	30.89	32.20	34.21	34.08
62.50°	31.38	31.82	31.93	29.13	25.10	22.90	21.32	19.73	19.16	19.27	20.43	21.79	24.62	27.77	30.11	31.82	31.38
65.00°	28.81	29.19	29.08	25.44	22.41	21.39	19.25	17.46	17.35	17.92	18.59	19.93	22.38	24.53	26.88	29.50	28.81
67.50°	26.06	24.74	24.46	21.72	19.39	18.86	16.48	15.10	15.49	15.77	16.63	17.15	19.23	20.90	23.35	24.40	26.06
70.00°	20.13	19.58	19.53	17.73	15.28	15.28	13.19	11.96	13.61	13.28	13.97	13.80	15.11	17.14	18.03	18.50	20.13
72.50°	14.35	13.68	15.02	13.82	11.39	10.67	10.08	8.78	10.52	9.87	11.20	10.49	11.35	12.99	12.97	13.70	14.35
75.00°	10.28	9.00	10.57	10.43	8.16	7.26	7.10	6.39	6.87	6.76	7.98	7.20	7.90	9.09	9.24	9.16	10.28
77.50°	6.42	5.50	7.29	7.15	5.40	4.92	4.96	4.03	4.53	4.44	4.70	4.92	5.27	5.90	5.92	6.17	6.42
80.00°	4.31	3.41	4.14	4.48	3.89	3.54	3.31	3.32	2.73	2.71	3.45	3.15	3.33	3.40	4.28	3.49	4.31
82.50°	2.45	2.56	3.33	2.30	2.70	2.93	2.45	2.63	1.97	2.28	2.37	2.48	2.41	2.61	2.89	2.53	2.45
85.00°	2.18	2.13	2.71	2.44	2.26	2.48	2.01	2.35	1.57	1.99	2.32	2.29	2.28	2.10	2.35	1.86	2.18
87.50°	1.96	2.03	2.56	2.48	1.99	2.16	1.97	2.08	1.61	1.99	2.33	2.20	2.20	2.16	1.93	2.07	1.96
90.00°	1.96	1.89	2.44	2.08	2.06	2.06	2.12	1.87	1.79	1.88	2.38	2.15	2.17	2.20	1.86	2.40	1.96
92.50°	1.94	1.72	2.40	1.77	2.08	2.09	2.16	1.70	1.96	1.59	2.42	1.98	2.01	2.16	1.78	1.92	1.94
95.00°	1.82	1.79	2.36	1.75	2.02	2.05	2.15	1.91	2.14	1.48	2.34	1.77	1.76	2.00	1.64	1.38	1.82
97.50°	1.73	2.01	2.24	1.74	2.02	1.99	1.95	2.10	2.13	1.68	2.25	1.81	1.95	1.63	1.56	1.55	1.73
100.00°	1.75	2.08	2.13	1.76	2.11	2.00	1.68	2.17	2.08	1.78	2.15	1.90	2.38	1.53	1.65	1.78	1.75

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	pfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	1281	1281	1281	1281	1250	1250	1250	1250	1191	1191	1191	1138	1138	1138	1089	1089	1066
	1	1222	1193	1167	1143	1194	1168	1145	1124	1122	1104	1087	1080	1066	1052	1041	1030	1009
	2	1165	1115	1073	1038	1141	1095	1057	1025	1059	1028	1001	1025	1000	978	993	973	953
	3	1112	1047	996	956	1090	1031	984	947	1001	962	930	974	941	914	948	922	893
	4	1063	987	931	889	1043	974	922	883	950	906	871	927	890	860	906	875	849
	5	1017	934	876	833	999	923	869	829	903	856	820	884	844	812	867	832	804
	6	974	886	827	785	958	877	822	782	861	812	776	845	802	770	830	793	764
	7	935	844	785	743	920	836	780	741	822	772	736	808	764	732	796	757	727
	8	898	805	747	706	885	798	743	705	786	737	701	775	730	698	764	724	694
	9	863	770	712	673	851	764	709	672	753	704	669	744	699	666	734	694	664
	10	831	737	681	644	820	732	679	643	723	674	640	715	670	638	706	665	636

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	72.9 fc	3.9 ft
6.5 ft	52.2 fc	4.7 ft
7.5 ft	39.2 fc	5.4 ft
8.0 ft	34.4 fc	5.7 ft
10.0 ft	22.0 fc	7.2 ft
12.0 ft	15.3 fc	8.6 ft
14.0 ft	11.2 fc	10.0 ft
16.0 ft	8.6 fc	11.5 ft
20.0 ft	5.5 fc	14.3 ft
24.0 ft	3.8 fc	17.2 ft
28.0 ft	2.8 fc	20.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	685183	685183	685183
45.00°	23572	21978	19875
55.00°	21958	21271	16618
65.00°	21183	21385	16476
75.00°	12340	12698	9798
85.00°	7787	9648	8066

UGR CIE 190:2010

Ceiling reflectance		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall reflectance		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Plane reflectance		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				
2H	2H	17.1	18.1	17.5	18.5	18.8	14.8	15.8	15.2	16.1	16.5
	3H	18.9	19.8	19.3	20.1	20.5	16.7	17.6	17.1	17.9	18.3
	4H	19.2	20.0	19.6	20.4	20.8	17.0	17.9	17.5	18.2	18.7
	6H	19.3	20.0	19.7	20.4	20.8	17.2	17.9	17.6	18.3	18.7
	8H	19.2	20.0	19.7	20.4	20.8	17.2	17.9	17.6	18.3	18.7
	12H	19.2	19.9	19.7	20.3	20.8	17.2	17.9	17.7	18.3	18.8
4H	2H	17.7	18.5	18.1	18.9	19.3	15.3	16.1	15.7	16.5	16.9
	3H	19.5	20.2	20.0	20.6	21.1	17.3	17.9	17.7	18.4	18.8
	4H	19.8	20.4	20.3	20.9	21.4	17.7	18.3	18.1	18.7	19.2
	6H	19.9	20.5	20.4	20.9	21.4	17.8	18.4	18.3	18.8	19.3
	8H	19.9	20.4	20.4	20.9	21.4	17.9	18.4	18.4	18.8	19.3
	12H	19.9	20.3	20.4	20.8	21.4	17.9	18.4	18.5	18.9	19.4
8H	4H	19.9	20.4	20.4	20.8	21.3	17.7	18.2	18.2	18.7	19.2
	6H	20.0	20.4	20.5	20.9	21.4	17.9	18.3	18.5	18.8	19.4
	8H	20.0	20.4	20.6	20.9	21.4	18.0	18.4	18.6	18.9	19.4
	12H	20.1	20.4	20.6	20.9	21.5	18.2	18.5	18.7	19.0	19.6
12H	4H	19.8	20.2	20.3	20.8	21.3	17.7	18.1	18.2	18.6	19.1
	6H	20.0	20.3	20.5	20.8	21.4	17.9	18.3	18.5	18.7	19.3
	8H	20.0	20.3	20.6	20.8	21.4	18.0	18.3	18.6	18.9	19.5

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0