

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STT25PC 20L 35K WD xx MW NL

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

Test Number

SP-01057

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	1137
Efficacy	84.86 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.71
Two luminaires, plane 90°	0.7
Four luminaires	0.68

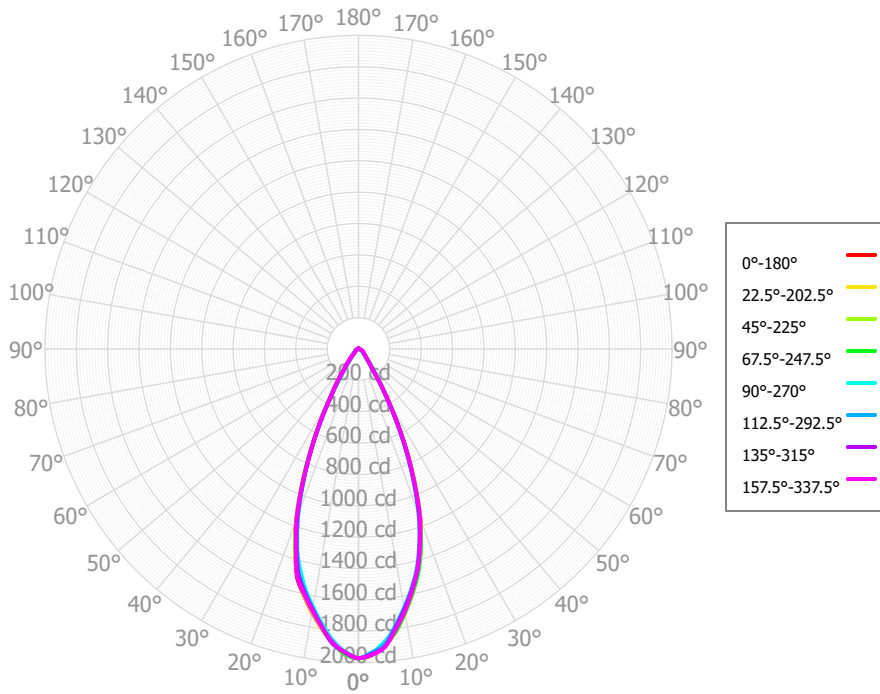
Full Beam Angle

0° - 180°	44°
90° - 270°	43°

IES File Header Contents

Keyword	Value
TEST	SP-01057
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/22/2020
ISSUEDATE	11/22/2022
LUMCAT	STT25PC 20L 35K WD xx MW NL
LUMINAIRE	Nominal 2.5 inch dia tracklight, wide beam, matte white finish with no lens
OTHER	Open aperture
OTHER	Beam Angle: 43 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

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	175.99	15.48%	90.00° - 100.00°	2.17	0.19%
10.00° - 20.00°	401.40	35.30%	100.00° - 110.00°	2.07	0.18%
20.00° - 30.00°	329.97	29.02%	100.00° - 120.00°	4.08	0.36%
30.00° - 40.00°	114.03	10.03%	120.00° - 130.00°	1.85	0.16%
40.00° - 50.00°	42.29	3.72%	130.00° - 140.00°	1.67	0.15%
50.00° - 60.00°	27.36	2.41%	140.00° - 150.00°	1.38	0.12%
60.00° - 70.00°	21.53	1.89%	150.00° - 160.00°	1.04	0.09%
70.00° - 80.00°	8.88	0.78%	160.00° - 170.00°	0.63	0.06%
80.00° - 90.00°	2.67	0.23%	170.00° - 180.00°	0.21	0.02%
0.00° - 90.00°	1124.13	98.85%	0.00° - 180.00°	1137.18	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°	1972.39	1972.39	1972.39	1972.39	1972.39	1972.39	1972.39	1972.39	1972.39	1972.39	1972.39	1972.39	1972.39	1972.39	1972.39	1972.39	1972.39
2.50°	1950.66	1954.20	1955.99	1953.57	1942.03	1934.98	1937.83	1939.27	1940.07	1948.84	1949.88	1949.80	1936.69	1938.48	1948.98	1954.30	1950.66
5.00°	1905.47	1898.16	1898.30	1896.60	1877.49	1887.76	1887.16	1879.83	1883.06	1878.18	1879.76	1879.77	1866.51	1892.79	1909.62	1909.59	1905.47
7.50°	1809.87	1813.26	1822.13	1817.53	1795.14	1787.66	1786.56	1789.65	1797.03	1796.16	1791.89	1782.24	1770.51	1784.72	1799.76	1806.71	1809.87
10.00°	1708.03	1710.87	1706.14	1707.19	1687.16	1682.60	1686.63	1696.05	1706.27	1703.81	1699.26	1684.39	1669.91	1675.93	1689.63	1700.23	1708.03
12.50°	1588.73	1596.79	1589.63	1593.05	1575.41	1579.43	1591.96	1601.61	1609.44	1604.37	1605.50	1586.40	1567.48	1564.38	1574.71	1580.70	1588.73
15.00°	1462.19	1465.91	1472.23	1474.42	1459.11	1476.35	1486.49	1507.12	1511.92	1499.35	1480.56	1464.61	1445.10	1442.89	1456.05	1454.13	1462.19
17.50°	1319.34	1325.72	1327.16	1322.09	1307.45	1302.35	1319.53	1330.16	1339.17	1340.85	1349.81	1335.00	1316.07	1291.99	1299.44	1307.55	1319.34
20.00°	1154.35	1144.61	1141.31	1135.24	1118.99	1126.86	1143.69	1151.25	1161.58	1147.21	1152.32	1145.32	1127.06	1126.31	1136.64	1143.53	1154.35
22.50°	947.10	944.84	946.04	940.63	923.09	923.98	930.73	936.65	944.84	942.09	946.27	939.60	922.43	924.24	933.66	939.55	947.10
25.00°	743.13	744.10	738.80	739.33	720.69	722.40	722.91	723.90	728.06	730.51	741.88	732.89	719.77	724.28	732.72	738.56	743.13
27.50°	544.35	542.97	548.57	553.54	537.50	537.06	531.62	537.27	543.98	542.72	537.61	525.98	517.50	528.58	541.23	543.40	544.35
30.00°	376.14	384.59	376.49	379.26	368.39	361.18	362.48	360.21	365.27	365.96	382.15	371.02	362.25	359.02	365.34	373.64	376.14
32.50°	248.33	239.20	251.68	258.79	251.91	256.16	252.31	260.52	266.40	256.89	229.32	223.39	213.83	234.16	246.87	244.69	248.33
35.00°	160.33	168.18	170.46	171.67	168.62	161.28	163.27	169.18	173.54	173.25	168.28	158.56	151.75	145.05	149.63	154.37	160.33
37.50°	117.71	114.56	118.35	120.87	118.36	119.15	119.85	126.46	131.14	124.19	108.81	101.67	97.50	106.85	113.77	115.87	117.71
40.00°	88.99	89.83	88.77	88.70	85.34	81.71	84.46	87.56	91.78	85.85	81.82	78.55	78.35	79.88	84.65	88.12	88.99
42.50°	73.58	70.33	69.92	69.22	64.87	63.29	63.32	64.94	70.66	62.49	56.19	56.97	60.64	66.28	71.76	72.83	73.58
45.00°	61.40	58.71	58.02	55.25	49.94	46.90	46.57	45.16	51.40	42.72	44.34	46.52	51.42	55.84	60.75	60.55	61.40
47.50°	51.83	48.04	48.22	46.13	40.47	36.89	36.48	35.07	40.25	33.47	33.53	36.39	42.40	48.66	53.46	51.22	51.83
50.00°	45.04	42.93	39.57	38.70	32.95	29.48	29.90	27.52	30.96	26.08	29.48	32.80	37.46	42.64	47.09	45.20	45.04
52.50°	40.20	38.25	35.80	35.41	29.79	28.62	27.76	26.85	28.21	24.07	25.79	29.34	32.64	37.62	42.25	41.91	40.20
55.00°	37.10	36.39	34.26	33.25	27.86	27.35	25.66	25.60	25.45	22.76	23.77	27.35	29.10	33.37	38.14	38.69	37.10
57.50°	35.01	34.61	32.63	31.43	26.17	25.25	23.60	23.10	22.63	21.40	22.01	25.46	25.91	29.67	35.08	35.54	35.01
60.00°	32.89	32.27	30.97	29.67	24.53	23.61	22.25	20.95	20.17	20.04	21.21	24.26	25.26	27.43	32.11	32.95	32.89
62.50°	30.75	29.87	28.79	28.54	24.00	22.79	21.57	19.44	18.48	19.20	19.97	22.74	24.13	26.10	29.23	30.70	30.75
65.00°	27.17	26.31	26.45	27.51	23.64	21.06	19.74	17.89	16.83	18.37	17.49	19.52	20.59	23.08	25.83	27.35	27.17
67.50°	23.02	22.58	22.81	22.75	19.98	18.03	17.03	16.25	15.28	15.63	14.77	16.25	17.06	19.20	21.92	23.45	23.02
70.00°	18.41	17.27	18.87	17.60	15.98	14.49	14.01	13.63	12.94	12.88	11.45	12.73	13.50	15.02	17.62	18.70	18.41
72.50°	13.64	12.20	14.04	13.34	12.26	10.32	10.79	9.74	9.38	9.83	8.52	9.37	10.12	10.73	12.99	13.60	13.64
75.00°	10.02	8.65	9.04	9.14	8.55	6.85	7.68	6.71	6.43	6.87	6.38	6.56	7.28	7.64	9.17	9.63	10.02
77.50°	6.70	5.45	6.02	6.53	5.67	4.12	4.63	4.65	4.28	4.74	4.53	4.24	4.85	4.99	5.93	6.03	6.70
80.00°	4.36	3.98	3.23	3.98	2.87	2.53	3.39	3.31	2.93	2.85	3.14	3.21	3.41	3.66	3.91	4.27	4.36
82.50°	2.21	2.75	3.00	2.86	2.51	1.98	2.98	2.67	2.49	2.45	2.30	2.44	2.38	2.70	2.61	3.00	2.21
85.00°	2.02	2.39	2.94	1.82	2.19	1.88	2.78	2.37	2.21	2.11	2.21	2.24	2.23	2.26	2.23	2.35	2.02
87.50°	2.10	2.11	2.58	1.89	2.34	2.12	2.66	2.34	2.09	2.04	2.20	2.11	2.15	1.94	2.32	1.81	2.10
90.00°	1.99	2.06	2.21	1.94	2.46	2.09	2.55	2.27	1.94	1.97	2.27	2.10	2.18	1.94	2.24	1.82	1.99
92.50°	1.87	1.95	1.98	1.83	2.34	1.89	2.43	2.17	1.79	1.89	2.24	2.04	2.14	1.99	2.09	1.89	1.87
95.00°	2.18	1.68	1.77	1.76	2.17	1.84	2.31	2.17	1.79	1.82	2.10	1.88	2.01	1.98	1.87	1.98	2.18
97.50°	2.50	1.64	1.86	1.87	1.73	1.88	2.18	2.21	1.90	1.79	1.97	1.88	1.92	1.97	1.63	2.06	2.50
100.00°	2.13	2.06	1.96	1.94	1.42	1.88	2.18	2.20	1.87	1.77	1.84	2.06	1.86	1.96	1.73	2.11	2.13

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%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	1351	1351	1351	1351	1318	1318	1318	1318	1256	1256	1256	1200	1200	1200	1148	1148	1148	1124
	1	1288	1257	1228	1203	1259	1231	1206	1183	1182	1162	1144	1138	1122	1108	1097	1085	1073	1062
	2	1227	1172	1128	1090	1200	1152	1111	1077	1113	1080	1051	1077	1050	1027	1044	1023	1003	1002
	3	1169	1098	1044	1000	1146	1082	1032	991	1050	1009	974	1021	986	957	994	966	941	946
	4	1115	1033	973	927	1094	1020	964	921	994	946	909	970	930	897	947	914	885	896
	5	1065	975	912	866	1046	964	905	862	942	892	853	922	879	844	904	866	836	850
	6	1018	923	859	813	1001	914	854	810	896	843	804	879	833	797	863	823	791	808
	7	974	876	812	767	959	868	808	765	853	799	760	838	791	755	825	783	750	769
	8	934	833	770	726	920	826	766	725	813	759	721	801	753	717	790	746	714	734
	9	896	794	732	690	883	788	729	688	777	723	686	767	718	683	757	712	680	701
	10	860	759	698	657	849	753	695	656	744	690	654	734	686	651	726	681	649	671

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	65.2 fc	4.5 ft
6.5 ft	46.7 fc	5.3 ft
7.5 ft	35.1 fc	6.1 ft
8.0 ft	30.8 fc	6.5 ft
10.0 ft	19.7 fc	8.1 ft
12.0 ft	13.7 fc	9.7 ft
14.0 ft	10.1 fc	11.3 ft
16.0 ft	7.7 fc	12.9 ft
20.0 ft	4.9 fc	16.2 ft
24.0 ft	3.4 fc	19.4 ft
28.0 ft	2.5 fc	22.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	612963	612963	612963
45.00°	26987	25501	21949
55.00°	20102	18561	15095
65.00°	19982	19452	17384
75.00°	12036	10860	10269
85.00°	7199	10480	7793

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	16.7	17.7	17.1	18.0	18.4	14.5	15.5	14.9	15.8	16.2
	3H	18.3	19.2	18.7	19.6	20.0	16.3	17.2	16.7	17.6	17.9
	4H	18.6	19.5	19.1	19.8	20.3	16.7	17.5	17.1	17.9	18.3
	6H	18.7	19.5	19.2	19.9	20.3	16.8	17.5	17.2	17.9	18.3
	8H	18.7	19.4	19.2	19.8	20.3	16.8	17.5	17.2	17.9	18.3
	12H	18.7	19.4	19.2	19.8	20.3	16.8	17.5	17.3	17.9	18.3
4H	2H	17.2	18.0	17.7	18.4	18.8	15.0	15.8	15.4	16.2	16.6
	3H	18.9	19.6	19.4	20.0	20.5	16.9	17.5	17.3	18.0	18.4
	4H	19.3	19.9	19.7	20.3	20.8	17.3	17.9	17.7	18.3	18.8
	6H	19.4	19.9	19.9	20.4	20.9	17.4	17.9	17.9	18.4	18.9
	8H	19.4	19.9	19.9	20.4	20.9	17.4	17.9	17.9	18.4	18.9
	12H	19.4	19.8	19.9	20.4	20.9	17.5	17.9	18.0	18.4	18.9
8H	4H	19.3	19.8	19.8	20.3	20.8	17.3	17.8	17.8	18.2	18.7
	6H	19.5	19.9	20.0	20.4	20.9	17.5	17.9	18.0	18.4	18.9
	8H	19.5	19.9	20.1	20.4	20.9	17.5	17.9	18.1	18.4	18.9
	12H	19.6	19.9	20.1	20.4	21.0	17.7	18.0	18.2	18.5	19.1
12H	4H	19.3	19.7	19.8	20.2	20.7	17.3	17.7	17.8	18.2	18.7
	6H	19.5	19.8	20.0	20.3	20.9	17.5	17.8	18.0	18.3	18.9
	8H	19.5	19.8	20.1	20.3	20.9	17.6	17.8	18.1	18.4	19.0

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0