

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STT25PC 20L 35K WD xx MW LN2ASO

Nominal 2.5 inch dia tracklight, wide beam, matte white finish with Solite lens

Test Number

SP-01057_1

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	1031
Efficacy	76.96 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.7
Two luminaires, plane 90°	0.7
Four luminaires	0.69

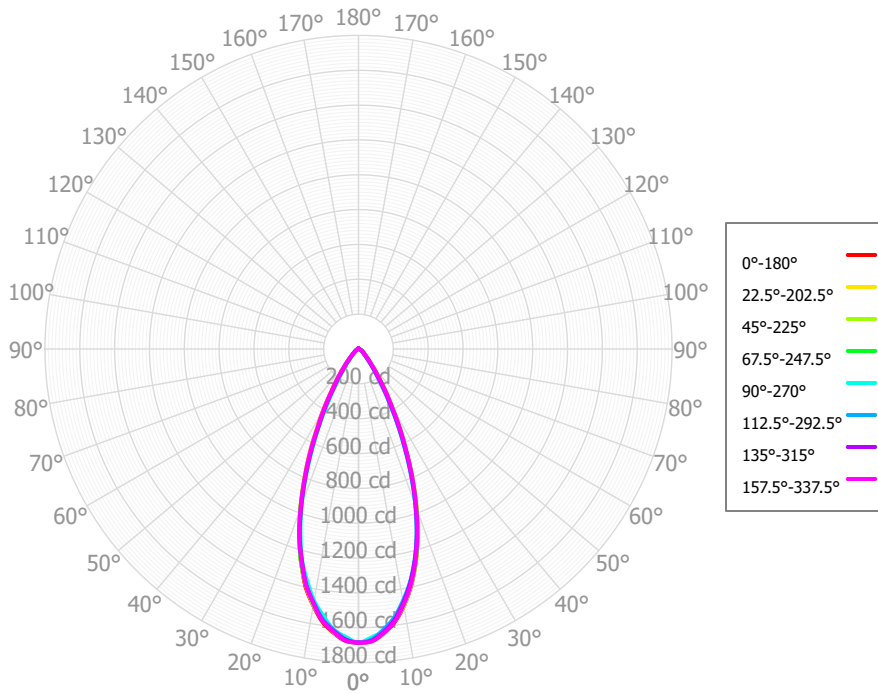
Full Beam Angle

0° - 180°	44°
90° - 270°	43°

IES File Header Contents

Keyword	Value
TEST	SP-01057_1
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 LN2ASO
LUMINAIRE	Nominal 2.5 inch dia tracklight, wide beam, matte white finish with Solite lens
OTHER	Beam Angle: 44 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°	152.99	14.84%	90.00° - 100.00°	2.23	0.22%
10.00° - 20.00°	345.02	33.46%	100.00° - 110.00°	2.11	0.20%
20.00° - 30.00°	293.24	28.44%	100.00° - 120.00°	4.14	0.40%
30.00° - 40.00°	130.25	12.63%	120.00° - 130.00°	1.91	0.19%
40.00° - 50.00°	48.76	4.73%	130.00° - 140.00°	1.64	0.16%
50.00° - 60.00°	25.19	2.44%	140.00° - 150.00°	1.41	0.14%
60.00° - 70.00°	14.28	1.39%	150.00° - 160.00°	1.05	0.10%
70.00° - 80.00°	5.82	0.56%	160.00° - 170.00°	0.64	0.06%
80.00° - 90.00°	2.43	0.24%	170.00° - 180.00°	0.22	0.02%
0.00° - 90.00°	1017.98	98.72%	0.00° - 180.00°	1031.21	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°	1685.71	1685.71	1685.71	1685.71	1685.71	1685.71	1685.71	1685.71	1685.71	1685.71	1685.71	1685.71	1685.71	1685.71	1685.71	1685.71	1685.71
2.50°	1679.81	1675.47	1669.69	1669.35	1658.73	1668.69	1670.55	1676.23	1677.57	1671.41	1665.39	1665.86	1655.04	1671.06	1677.28	1681.43	1679.81
5.00°	1641.37	1639.84	1642.45	1637.15	1625.50	1619.58	1626.87	1631.09	1636.12	1632.05	1632.64	1632.15	1618.85	1619.50	1633.08	1638.78	1641.37
7.50°	1582.93	1576.99	1570.50	1567.40	1558.01	1565.06	1572.77	1575.67	1581.06	1572.07	1566.81	1558.41	1546.09	1558.44	1570.93	1579.32	1582.93
10.00°	1498.93	1496.25	1495.83	1488.93	1478.34	1477.69	1484.11	1485.44	1495.74	1489.59	1492.90	1482.37	1468.22	1468.40	1480.20	1490.42	1498.93
12.50°	1393.99	1388.53	1386.28	1383.67	1373.79	1387.64	1387.90	1388.72	1401.26	1392.28	1389.40	1379.76	1362.27	1368.76	1374.84	1386.46	1393.99
15.00°	1268.91	1267.79	1272.08	1266.09	1253.60	1256.61	1258.73	1261.67	1270.64	1267.88	1274.47	1272.82	1254.30	1247.84	1252.10	1262.62	1268.91
17.50°	1127.17	1124.44	1125.86	1121.93	1109.91	1122.46	1125.26	1131.77	1132.71	1129.93	1130.41	1125.12	1107.61	1112.83	1113.23	1123.03	1127.17
20.00°	973.05	973.39	975.70	969.66	956.07	958.31	963.83	971.07	974.63	974.71	977.72	973.57	958.99	955.05	959.95	967.58	973.05
22.50°	814.11	813.12	809.55	804.20	790.53	794.89	801.31	810.00	814.39	813.34	808.96	802.80	789.21	793.77	801.14	810.33	814.11
25.00°	652.51	650.68	649.66	646.15	633.74	635.20	645.87	654.84	664.33	659.37	649.08	636.79	623.09	628.28	638.54	651.71	652.51
27.50°	515.14	513.53	506.74	497.10	484.58	485.50	494.06	504.56	515.90	507.22	501.44	486.62	478.02	481.06	496.90	511.51	515.14
30.00°	387.37	379.78	378.63	372.05	363.58	367.99	378.56	389.84	402.00	391.04	375.71	352.62	344.31	350.89	365.92	381.98	387.37
32.50°	294.74	289.75	280.12	268.91	261.17	264.70	270.76	283.46	292.84	280.10	273.27	255.95	251.03	253.41	270.98	286.65	294.74
35.00°	212.01	202.58	200.05	193.68	189.97	194.46	202.76	213.93	222.47	213.30	196.19	177.24	171.62	178.79	189.55	205.66	212.01
37.50°	161.88	156.31	147.12	138.12	134.13	137.36	142.24	152.20	157.87	149.34	139.36	128.65	126.16	130.07	141.15	155.09	161.88
40.00°	117.44	112.01	106.77	101.89	99.93	102.47	107.30	113.19	119.58	112.19	100.70	90.79	89.82	94.69	101.09	113.31	117.44
42.50°	91.53	88.29	80.68	75.72	73.29	74.82	77.02	80.43	85.51	76.58	72.86	66.73	70.11	72.77	79.08	88.64	91.53
45.00°	67.18	66.31	61.67	59.04	57.54	56.55	57.75	60.99	64.49	58.90	54.69	49.92	53.85	55.97	59.77	67.24	67.18
47.50°	55.78	54.15	48.68	45.87	44.42	43.63	43.15	45.48	47.22	42.65	40.85	40.10	42.26	46.65	50.05	55.60	55.78
50.00°	44.89	43.34	41.06	38.60	37.52	35.91	36.55	36.11	38.09	34.49	32.85	32.67	34.48	39.27	41.04	44.91	44.89
52.50°	39.54	37.32	36.85	32.86	31.50	30.22	30.45	28.90	30.49	27.09	26.68	27.01	30.57	34.20	36.48	38.75	39.54
55.00°	34.32	31.48	32.03	29.25	26.84	26.00	25.01	24.19	25.39	22.49	23.52	22.70	26.59	29.48	31.92	32.72	34.32
57.50°	30.01	26.12	26.90	25.97	22.29	23.30	20.92	20.50	20.88	18.45	20.96	19.13	22.56	25.95	27.32	27.81	30.01
60.00°	25.65	21.67	22.47	22.25	20.45	21.44	18.17	17.72	17.07	15.78	17.96	16.18	19.98	22.49	22.85	23.03	25.65
62.50°	21.05	18.85	18.28	18.51	18.57	18.64	15.25	14.99	13.81	13.24	14.91	13.49	18.25	19.24	19.16	19.21	21.05
65.00°	16.87	16.14	15.23	16.03	16.13	15.45	12.20	12.29	11.06	10.95	11.51	11.77	15.34	15.99	15.50	15.62	16.87
67.50°	13.85	13.56	12.42	13.50	13.67	12.64	10.08	10.09	9.20	8.87	8.17	10.32	11.92	12.73	11.98	13.11	13.85
70.00°	10.92	10.64	10.28	10.31	11.09	9.93	8.50	8.14	7.97	7.07	6.85	8.10	9.65	9.66	8.85	10.70	10.92
72.50°	8.15	7.39	8.22	7.28	8.49	7.67	6.82	6.13	6.14	5.64	5.59	5.73	7.73	7.85	6.77	8.55	8.15
75.00°	5.81	5.11	5.93	5.22	5.80	5.49	5.09	4.11	3.99	4.60	4.79	4.57	5.64	6.09	4.95	6.41	5.81
77.50°	4.10	3.58	3.66	3.48	3.64	4.24	3.71	3.12	3.13	3.53	3.91	3.51	3.52	4.51	3.64	4.27	4.10
80.00°	2.94	2.91	2.73	2.93	2.83	3.06	2.42	2.39	2.74	2.44	2.65	2.85	2.87	3.21	2.72	2.74	2.94
82.50°	2.39	2.74	1.88	2.50	2.35	2.58	2.19	2.40	2.23	1.87	1.75	2.22	2.38	2.64	2.34	2.19	2.39
85.00°	2.00	2.48	1.83	2.41	2.49	2.15	2.16	2.51	1.68	1.59	1.99	1.99	2.46	2.27	2.07	1.88	2.00
87.50°	1.75	2.18	1.83	2.35	2.42	2.32	2.14	2.27	1.73	1.72	2.12	1.81	2.56	2.25	1.91	1.87	1.75
90.00°	1.85	2.28	2.04	2.38	2.08	2.50	2.12	2.02	1.88	2.03	2.00	2.00	2.53	2.24	1.81	1.88	1.85
92.50°	2.18	2.49	2.18	2.27	1.83	2.67	1.97	1.87	2.03	1.94	1.94	2.10	2.48	2.25	1.75	1.90	2.18
95.00°	2.23	2.17	2.11	1.96	1.68	2.74	1.83	1.76	2.19	1.72	2.00	1.83	2.36	2.24	1.90	1.86	2.23
97.50°	2.15	1.76	1.97	1.75	1.72	2.44	1.79	2.05	1.96	1.90	2.04	1.65	2.26	2.21	2.18	1.79	2.15
100.00°	1.97	1.98	1.64	1.64	1.92	2.22	1.77	2.26	1.76	2.17	2.05	1.69	2.30	2.13	2.18	1.85	1.97

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	1224	1224	1224	1224	1194	1194	1194	1194	1138	1138	1138	1087	1087	1087	1040	1040	1018
	1	1167	1139	1113	1090	1141	1115	1092	1072	1071	1053	1036	1031	1016	1003	993	982	961
	2	1111	1062	1021	986	1087	1043	1006	974	1007	977	951	975	950	929	945	925	906
	3	1058	993	943	904	1036	978	932	895	949	911	879	923	891	864	898	872	854
	4	1008	933	878	835	989	920	869	830	896	853	819	874	838	808	854	823	807
	5	961	878	821	778	944	868	814	774	848	802	766	830	790	758	813	778	764
	6	917	830	771	729	902	821	766	726	805	756	720	789	746	714	775	737	724
	7	877	786	727	686	863	778	723	683	764	715	679	751	707	674	739	700	688
	8	839	746	688	647	826	740	684	646	728	678	642	716	672	639	706	666	655
	9	803	710	652	613	792	704	649	612	694	644	609	684	639	607	675	634	624
	10	771	676	620	583	760	672	618	582	663	613	579	654	609	577	646	605	596

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	55.7 fc	4.5 ft
6.5 ft	39.9 fc	5.3 ft
7.5 ft	30.0 fc	6.1 ft
8.0 ft	26.3 fc	6.5 ft
10.0 ft	16.9 fc	8.1 ft
12.0 ft	11.7 fc	9.7 ft
14.0 ft	8.6 fc	11.3 ft
16.0 ft	6.6 fc	13.0 ft
20.0 ft	4.2 fc	16.2 ft
24.0 ft	2.9 fc	19.4 ft
28.0 ft	2.2 fc	22.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	523871	523871	523871
45.00°	29526	27102	25287
55.00°	18595	17352	14543
65.00°	12404	11197	11860
75.00°	6975	7121	6959
85.00°	7129	6538	8861

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	15.3	16.3	15.7	16.6	17.0	13.6	14.6	14.0	14.9	15.3
	3H	16.3	17.1	16.7	17.5	17.9	14.9	15.7	15.3	16.1	16.5
	4H	16.5	17.3	16.9	17.7	18.1	15.2	16.0	15.6	16.4	16.8
	6H	16.5	17.3	17.0	17.7	18.1	15.3	16.0	15.7	16.4	16.9
	8H	16.6	17.3	17.0	17.7	18.1	15.3	16.0	15.8	16.4	16.9
	12H	16.6	17.3	17.0	17.7	18.1	15.4	16.1	15.9	16.5	17.0
4H	2H	15.5	16.3	15.9	16.7	17.1	13.8	14.6	14.2	15.0	15.4
	3H	16.6	17.3	17.0	17.7	18.1	15.2	15.9	15.6	16.3	16.7
	4H	16.9	17.5	17.3	17.9	18.4	15.6	16.2	16.0	16.6	17.1
	6H	17.0	17.5	17.5	18.0	18.5	15.8	16.3	16.3	16.8	17.3
	8H	17.0	17.5	17.5	18.0	18.5	15.9	16.3	16.4	16.8	17.3
	12H	17.1	17.5	17.6	18.0	18.5	16.0	16.4	16.5	16.9	17.4
8H	4H	16.9	17.3	17.4	17.8	18.3	15.6	16.1	16.1	16.5	17.0
	6H	17.0	17.4	17.6	18.0	18.5	15.9	16.2	16.4	16.8	17.3
	8H	17.1	17.5	17.7	18.0	18.6	16.0	16.4	16.6	16.9	17.4
	12H	17.3	17.6	17.9	18.1	18.7	16.3	16.6	16.8	17.1	17.7
12H	4H	16.8	17.2	17.3	17.7	18.3	15.5	15.9	16.1	16.5	17.0
	6H	17.0	17.4	17.6	17.9	18.4	15.8	16.2	16.4	16.7	17.3
	8H	17.2	17.4	17.7	18.0	18.6	16.0	16.3	16.6	16.9	17.5

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0