Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

STT3PC 40L 30HK MD xx xx MW LN3ASO

Nom 3 inch dia Euro style tracklight with 90 CRI emitter and Solite lens

Test Number

SP-01455_1

Test Date

12/1/2022

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

Summary of Results

Power

Input Watts	35 W

Lumen Output

Output Lumens	2489
Efficacy	71.1 lm/W

Luminous Dimensions

0° - 180° Size	-0.25
90° - 270° Size	-0.25
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.52
Two luminaires, plane 90°	0.51
Four luminaires	0.54

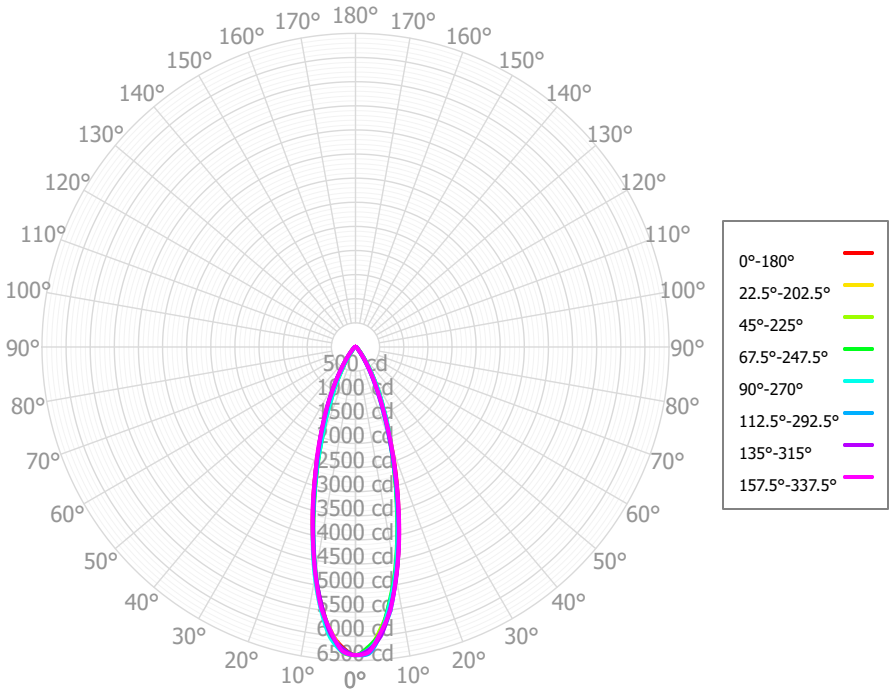
Full Beam Angle

0° - 180°	32°
90° - 270°	31°

IES File Header Contents

Keyword	Value
TEST	SP-01455_1
TESTLAB	Spectrum Lighting Photometric lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	12/1/2022
ISSUEDATE	12/2/2022
LUMCAT	STT3PC 40L 30HK MD xx xx MW LN3ASO
LUMINAIRE	Nom 3 inch dia Euro style tracklight with 90 CRI emitter and Solite lens
OTHER	Beam Angle: 32 deg
OTHER	Medium Beam
OTHER	Reference project SL474.1
LAMPCAT	N/A
LAMP	N/A
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	90
_CCTMULT	27HK x 0.96, 35HK x 1.05, 40HK x 1.08
_LAMPMULT	10L x 0.24, 20L x 0.49, 30L x 0.73

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	535.76	21.53%	90.00° - 100.00°	1.86	0.07%
10.00° - 20.00°	919.19	36.94%	100.00° - 110.00°	1.65	0.07%
20.00° - 30.00°	600.99	24.15%	100.00° - 120.00°	3.37	0.14%
30.00° - 40.00°	239.61	9.63%	120.00° - 130.00°	1.60	0.06%
40.00° - 50.00°	82.25	3.30%	130.00° - 140.00°	1.51	0.06%
50.00° - 60.00°	46.34	1.86%	140.00° - 150.00°	1.32	0.05%
60.00° - 70.00°	31.72	1.27%	150.00° - 160.00°	1.09	0.04%
70.00° - 80.00°	16.17	0.65%	160.00° - 170.00°	0.63	0.03%
80.00° - 90.00°	5.04	0.20%	170.00° - 180.00°	0.20	0.01%
0.00° - 90.00°	2477.09	99.54%	0.00° - 180.00°	2488.66	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°	6389.05	6389.05	6389.05	6389.05	6389.05	6389.05	6389.05	6389.05	6389.05	6389.05	6389.05	6389.05	6389.05	6389.05	6389.05	6389.05	6389.05
2.50°	6251.09	6263.41	6315.93	6221.60	6275.78	6321.00	6256.98	6309.69	6231.44	6273.18	6332.77	6255.72	6321.53	6363.16	6286.85	6334.22	6251.09
5.00°	5961.10	5898.49	5881.08	5946.87	5969.44	5925.19	5966.40	5908.19	5931.89	5903.16	5903.70	6010.00	6043.46	5986.71	6017.02	5943.75	5961.10
7.50°	5463.42	5424.06	5442.11	5351.91	5390.67	5428.89	5395.51	5458.07	5399.33	5441.70	5466.32	5434.19	5496.37	5525.49	5485.25	5512.13	5463.42
10.00°	4841.59	4773.67	4736.50	4731.28	4760.44	4752.46	4778.59	4784.59	4791.63	4765.18	4753.97	4805.23	4847.46	4832.20	4862.99	4844.71	4841.59
12.50°	4155.90	4063.44	4031.14	3994.09	4019.03	4023.52	4054.90	4085.17	4079.58	4080.70	4041.93	4058.64	4106.70	4122.64	4147.29	4168.67	4155.90
15.00°	3434.40	3373.74	3334.30	3282.39	3318.78	3353.44	3370.44	3424.81	3405.08	3378.79	3336.36	3295.42	3333.73	3371.77	3401.76	3447.58	3434.40
17.50°	2785.50	2690.49	2646.56	2675.66	2701.63	2699.07	2770.81	2768.28	2779.63	2731.23	2641.97	2656.01	2666.27	2669.91	2742.96	2751.63	2785.50
20.00°	2174.74	2156.67	2152.71	2110.90	2151.56	2206.43	2230.21	2271.44	2229.69	2196.44	2125.81	2031.75	2033.03	2083.97	2109.65	2173.75	2174.74
22.50°	1693.55	1666.01	1668.02	1703.81	1728.21	1753.22	1808.93	1787.43	1773.69	1714.41	1621.14	1592.10	1572.70	1563.97	1638.50	1634.57	1693.55
25.00°	1276.84	1301.64	1327.55	1322.21	1347.67	1396.60	1422.43	1423.95	1376.43	1334.72	1260.46	1171.64	1164.03	1189.38	1211.04	1260.04	1276.84
27.50°	964.25	970.69	994.74	1028.33	1042.93	1061.36	1101.69	1068.10	1048.00	997.11	911.08	885.60	871.91	861.32	912.42	914.76	964.25
30.00°	700.08	730.80	757.10	757.30	774.77	805.44	817.91	817.48	773.85	735.98	677.76	611.15	611.75	629.06	645.49	682.82	700.08
32.50°	511.45	512.88	527.98	558.67	567.38	565.35	599.63	571.77	559.61	516.66	455.47	444.77	438.88	432.43	469.37	473.40	511.45
35.00°	355.59	372.54	385.73	383.68	397.37	415.63	420.23	431.16	396.23	368.63	331.58	285.84	287.88	304.45	313.90	343.77	355.59
37.50°	254.76	249.17	251.71	277.82	285.67	282.05	305.50	293.77	285.78	251.99	215.99	207.06	202.99	202.11	226.32	230.37	254.76
40.00°	176.17	183.04	188.50	187.69	197.18	208.82	214.83	223.29	204.36	185.59	163.89	132.47	133.17	146.03	152.69	169.88	176.17
42.50°	129.62	128.19	129.63	140.18	143.09	145.37	161.75	153.82	151.41	134.64	115.74	103.22	101.21	102.78	117.01	118.85	129.62
45.00°	95.10	101.29	103.70	100.79	102.52	113.49	120.35	124.87	114.22	106.93	94.01	75.61	77.03	81.23	88.32	96.27	95.10
47.50°	77.20	79.33	79.90	82.16	80.79	86.11	96.29	96.12	91.58	84.72	73.95	64.85	64.69	64.74	74.07	76.65	77.20
50.00°	65.07	67.09	70.13	66.54	65.59	73.09	78.04	81.10	74.49	70.30	63.75	54.44	54.52	56.31	62.18	65.35	65.07
52.50°	56.76	56.37	60.74	58.12	58.93	61.84	67.88	66.33	62.21	59.07	54.22	49.85	48.46	49.17	53.69	55.26	56.76
55.00°	49.67	50.24	53.54	51.03	53.56	56.72	59.43	59.38	54.18	52.16	48.24	45.31	43.08	43.98	45.67	48.34	49.67
57.50°	44.12	44.73	46.84	46.91	49.77	52.24	53.24	52.52	49.62	46.19	42.66	41.22	38.28	38.79	40.37	42.08	44.12
60.00°	39.02	40.97	42.75	42.83	45.66	48.11	47.59	47.54	44.69	41.42	38.98	37.13	33.57	33.61	35.40	37.38	39.02
62.50°	35.04	37.43	38.55	38.82	41.17	44.01	42.62	42.48	39.47	36.12	35.27	32.71	29.74	29.18	32.22	32.82	35.04
65.00°	31.36	32.44	33.81	34.80	36.06	38.69	37.75	36.25	34.16	30.18	31.40	28.31	26.03	25.76	29.23	28.56	31.36
67.50°	27.34	27.30	29.15	30.77	30.25	33.28	33.01	30.17	28.77	25.26	27.19	24.22	22.16	22.09	24.58	24.21	27.34
70.00°	23.23	23.49	24.87	26.35	25.04	27.79	28.16	26.19	23.70	21.49	21.62	20.12	18.28	18.14	19.77	19.65	23.23
72.50°	19.45	19.79	20.69	21.24	20.44	22.31	23.20	22.17	18.85	18.09	16.62	15.70	14.96	14.37	15.78	15.87	19.45
75.00°	15.75	16.37	16.88	16.92	16.58	17.81	18.43	17.70	15.25	15.07	13.65	11.42	11.70	10.81	11.85	13.62	15.75
77.50°	12.55	12.97	13.09	13.97	13.44	13.34	13.87	13.36	12.45	12.03	10.83	9.20	8.81	7.97	9.62	11.24	12.55
80.00°	9.45	9.01	9.38	10.89	10.41	9.87	10.11	10.21	9.67	8.97	8.47	7.03	5.94	5.91	7.49	8.63	9.45
82.50°	6.56	5.03	6.15	7.59	7.47	6.42	7.12	7.17	6.91	6.26	6.24	5.46	4.88	4.21	5.16	6.15	6.56
85.00°	3.70	3.57	4.50	5.00	5.00	4.52	4.90	4.98	4.85	3.87	4.42	3.93	3.91	2.89	2.83	3.89	3.70
87.50°	2.65	2.20	3.06	3.48	2.93	2.65	3.39	2.95	3.18	2.45	2.91	2.69	2.89	2.01	2.22	2.35	2.65
90.00°	1.88	1.91	2.25	2.46	1.91	2.02	2.32	1.95	2.38	1.90	2.27	1.60	1.86	1.58	1.65	1.98	1.88
92.50°	1.79	1.64	1.60	2.14	1.74	1.41	1.63	1.15	2.05	1.62	1.82	1.68	1.80	1.52	1.74	1.69	1.79
95.00°	1.79	1.71	1.44	1.90	1.66	1.58	1.33	1.55	1.79	1.58	1.88	1.74	1.78	1.81	1.84	1.53	1.79
97.50°	1.81	1.78	1.31	1.79	1.66	1.74	1.35	1.85	1.56	1.47	1.89	1.68	1.70	1.89	1.69	1.44	1.81
100.00°	1.83	1.57	1.24	1.76	1.64	1.46	1.38	1.63	1.45	1.31	1.81	1.66	1.62	1.80	1.54	1.42	1.83

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	2960	2960	2960	2960	2890	2890	2890	2890	2759	2759	2759	2639	2639	2639	2529	2529	2529	2477
	1	2832	2768	2710	2658	2770	2713	2661	2614	2611	2570	2532	2517	2484	2455	2430	2405	2382	2356
	2	2709	2597	2505	2428	2654	2554	2471	2400	2473	2405	2346	2398	2343	2294	2328	2284	2245	2239
	3	2592	2448	2336	2247	2544	2413	2311	2229	2348	2262	2192	2287	2216	2157	2231	2172	2122	2131
	4	2484	2316	2193	2100	2440	2288	2174	2087	2234	2138	2061	2185	2103	2037	2139	2070	2012	2031
RCR	5	2382	2199	2070	1976	2343	2175	2056	1967	2131	2028	1948	2090	2001	1931	2052	1975	1913	1940
	6	2287	2093	1963	1869	2253	2074	1951	1862	2037	1930	1849	2003	1908	1836	1971	1888	1824	1856
	7	2199	1998	1867	1776	2168	1981	1858	1771	1951	1841	1761	1922	1824	1752	1895	1808	1742	1778
	8	2116	1911	1782	1693	2088	1897	1775	1689	1871	1761	1682	1846	1747	1675	1823	1734	1668	1707
	9	2039	1832	1705	1619	2014	1820	1699	1616	1798	1688	1610	1776	1676	1605	1756	1666	1599	1641
	10	1967	1759	1635	1552	1944	1749	1630	1550	1730	1620	1545	1711	1611	1541	1694	1602	1536	1579

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	211.2 fc	3.1 ft
6.5 ft	151.2 fc	3.7 ft
7.5 ft	113.6 fc	4.3 ft
8.0 ft	99.8 fc	4.6 ft
10.0 ft	63.9 fc	5.7 ft
12.0 ft	44.4 fc	6.8 ft
14.0 ft	32.6 fc	8.0 ft
16.0 ft	25.0 fc	9.1 ft
20.0 ft	16.0 fc	11.4 ft
24.0 ft	11.1 fc	13.7 ft
28.0 ft	8.1 fc	15.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1400994	1400994	1400994
45.00°	29492	32159	31792
55.00°	18987	20467	20477
65.00°	16270	17541	18708
75.00°	13343	14302	14050
85.00°	9318	11329	12575

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	14.3	15.3	14.7	15.6	16.0	14.8	15.8	15.2	16.1	16.4
	3H	15.8	16.7	16.2	17.0	17.4	16.2	17.1	16.6	17.4	17.8
	4H	16.4	17.2	16.8	17.5	17.9	16.6	17.4	17.1	17.8	18.2
	6H	16.7	17.5	17.2	17.9	18.3	16.9	17.6	17.3	18.0	18.4
	8H	16.8	17.5	17.3	17.9	18.4	17.0	17.7	17.4	18.1	18.5
	12H	16.9	17.6	17.3	18.0	18.4	17.1	17.7	17.5	18.1	18.6
4H	2H	14.8	15.6	15.2	16.0	16.4	15.3	16.1	15.7	16.5	16.9
	3H	16.5	17.1	16.9	17.5	17.9	16.9	17.6	17.3	18.0	18.4
	4H	17.1	17.7	17.5	18.1	18.6	17.4	18.0	17.9	18.5	18.9
	6H	17.6	18.1	18.1	18.5	19.0	17.8	18.3	18.3	18.8	19.2
	8H	17.7	18.2	18.2	18.6	19.1	17.9	18.4	18.4	18.8	19.3
	12H	17.8	18.2	18.3	18.7	19.2	18.0	18.4	18.5	18.9	19.4
8H	4H	17.2	17.7	17.7	18.2	18.7	17.6	18.1	18.1	18.5	19.0
	6H	17.8	18.2	18.4	18.7	19.2	18.1	18.5	18.6	19.0	19.5
	8H	18.0	18.4	18.6	18.9	19.4	18.3	18.6	18.8	19.1	19.6
	12H	18.2	18.5	18.7	19.0	19.6	18.4	18.7	19.0	19.2	19.8
12H	4H	17.2	17.6	17.7	18.1	18.6	17.6	18.0	18.1	18.5	19.0
	6H	17.9	18.2	18.4	18.7	19.2	18.1	18.4	18.6	18.9	19.5
	8H	18.1	18.4	18.6	18.9	19.5	18.3	18.6	18.9	19.1	19.7

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0