Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

LT03IND24 20L 35K DW xx xx MW

Specline Linear, 1.8" aperture x 2' Long, Matte White Refl

Test Number

SP-01546_2

Test Date

6/3/2022

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

Summary of Results

Power

Input Watts	32 W

Lumen Output

Output Lumens	2407
Efficacy	75.23 lm/W

Luminous Dimensions

0° - 180° Size	0.15
90° - 270° Size	2
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.25
Two luminaires, plane 90°	1.25
Four luminaires	1.37

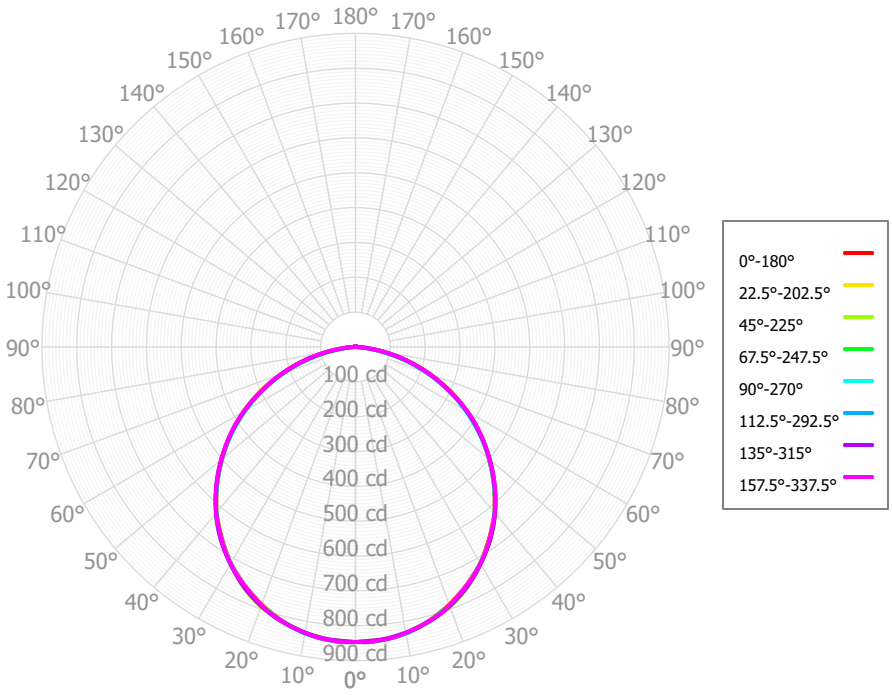
Full Beam Angle

0° - 180°	112°
90° - 270°	111°

IES File Header Contents

Keyword	Value
TEST	SP-01546_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/3/2022
ISSUEDATE	3/23/2023
LUMCAT	LT03IND24 20L 35K DW xx xx MW
LUMINAIRE	Specline Linear, 1.8" aperture x 2' Long, Matte White Refl
OTHER	Diffuse White Extruded Acrylic Lens, Symmetric Distribution
OTHER	Data for 2' IND fixture, Ceiling mount
OTHER	111 Degree Beam Angle
LAMP	N/A, Min. 80 CRI
LAMPCAT	N/A
OTHER	Reference project SL473
OTHER	20L designation for Spectrum linear product indicates 1204 Source Lm/Ft.
OTHER	CCT Output Multipliers: 40K x 1.02, 30K x 0.97
OTHER	Total Luminaire Watts is approximate
OTHER	This report prepared by Spectrum Lighting

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	81.44	3.38%	90.00° - 100.00°	2.19	0.09%
10.00° - 20.00°	229.87	9.55%	100.00° - 110.00°	1.86	0.08%
20.00° - 30.00°	348.42	14.47%	100.00° - 120.00°	3.72	0.15%
30.00° - 40.00°	420.32	17.46%	120.00° - 130.00°	1.74	0.07%
40.00° - 50.00°	434.46	18.05%	130.00° - 140.00°	1.46	0.06%
50.00° - 60.00°	390.04	16.20%	140.00° - 150.00°	1.22	0.05%
60.00° - 70.00°	293.50	12.19%	150.00° - 160.00°	0.90	0.04%
70.00° - 80.00°	161.00	6.69%	160.00° - 170.00°	0.56	0.02%
80.00° - 90.00°	36.19	1.50%	170.00° - 180.00°	0.19	0.01%
0.00° - 90.00°	2395.25	99.50%	0.00° - 180.00°	2407.23	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°	846.88	846.88	846.88	846.88	846.88	846.88	846.88	846.88	846.88	846.88	846.88	846.88	846.88	846.88	846.88	846.88	846.88
2.50°	845.16	845.85	844.69	846.14	847.96	847.49	844.82	848.08	845.16	845.85	844.69	846.14	847.96	847.49	844.82	848.08	845.16
5.00°	844.39	843.95	844.11	844.38	844.84	845.42	842.98	844.43	844.39	843.95	844.11	844.38	844.84	845.42	842.98	844.43	844.39
7.50°	839.50	839.29	838.47	839.59	840.63	841.46	838.86	840.63	839.50	839.29	838.47	839.59	840.63	841.46	838.86	840.63	839.50
10.00°	833.45	832.95	832.50	834.69	833.28	834.92	832.51	832.87	833.45	832.95	832.50	834.69	833.28	834.92	832.51	832.87	833.45
12.50°	824.07	824.63	824.48	824.99	825.21	826.34	824.75	825.01	824.07	824.63	824.48	824.99	825.21	826.34	824.75	825.01	824.07
15.00°	813.90	815.26	816.02	815.14	815.41	815.70	815.78	814.91	813.90	815.26	816.02	815.14	815.41	815.70	815.78	814.91	813.90
17.50°	800.75	802.30	805.41	802.07	804.21	803.64	804.47	804.35	800.75	802.30	805.41	802.07	804.21	803.64	804.47	804.35	800.75
20.00°	787.07	787.77	793.77	788.79	790.09	789.53	791.47	788.09	787.07	787.77	793.77	788.79	790.09	789.53	791.47	788.09	787.07
22.50°	770.69	771.61	778.35	773.17	774.56	774.22	776.03	771.75	770.69	771.61	778.35	773.17	774.56	774.22	776.03	771.75	770.69
25.00°	753.96	754.85	761.21	757.19	756.56	756.68	759.07	754.83	753.96	754.85	761.21	757.19	756.56	756.68	759.07	754.83	753.96
27.50°	735.20	736.19	738.91	738.34	737.67	738.03	739.50	737.45	735.20	736.19	738.91	738.34	737.67	738.03	739.50	737.45	735.20
30.00°	716.26	716.96	716.95	718.91	717.47	717.74	718.52	717.49	716.26	716.96	716.95	718.91	717.47	717.74	718.52	717.49	716.26
32.50°	692.98	694.78	695.83	696.27	696.20	696.77	696.69	696.66	692.98	694.78	695.83	696.27	696.20	696.77	696.69	696.66	692.98
35.00°	669.52	671.87	673.89	673.06	673.56	673.20	674.46	671.96	669.52	671.87	673.89	673.06	673.56	673.20	674.46	671.96	669.52
37.50°	645.07	646.37	650.18	647.38	648.69	648.70	649.30	647.10	645.07	646.37	650.18	647.38	648.69	648.70	649.30	647.10	645.07
40.00°	620.48	620.38	624.05	621.10	621.35	621.69	623.04	621.69	620.48	620.38	624.05	621.10	621.35	621.69	623.04	621.69	620.48
42.50°	591.34	592.64	593.61	592.67	592.54	593.96	594.08	595.21	591.34	592.64	593.61	592.67	592.54	593.96	594.08	595.21	591.34
45.00°	562.06	564.66	563.47	563.61	562.33	564.40	564.26	565.66	562.06	564.66	563.47	563.61	562.33	564.40	564.26	565.66	562.06
47.50°	530.91	534.32	533.78	532.77	531.85	534.43	533.51	535.39	530.91	534.32	533.78	532.77	531.85	534.43	533.51	535.39	530.91
50.00°	499.75	503.74	502.83	501.35	501.15	502.54	502.53	503.35	499.75	503.74	502.83	501.35	501.15	502.54	502.53	503.35	499.75
52.50°	468.43	471.70	470.21	468.57	468.39	470.31	470.27	471.36	468.43	471.70	470.21	468.57	468.39	470.31	470.27	471.36	468.43
55.00°	436.80	439.58	437.32	435.13	434.17	436.10	437.75	439.45	436.80	439.58	437.32	435.13	434.17	436.10	437.75	439.45	436.80
57.50°	403.29	405.73	404.10	400.37	399.85	401.64	404.00	406.33	403.29	405.73	404.10	400.37	399.85	401.64	404.00	406.33	403.29
60.00°	369.34	371.83	369.60	365.55	365.46	366.48	370.06	371.16	369.34	371.83	369.60	365.55	365.46	366.48	370.06	371.16	369.34
62.50°	333.34	336.54	333.81	330.65	329.75	331.26	333.37	335.58	333.34	336.54	333.81	330.65	329.75	331.26	333.37	335.58	333.34
65.00°	297.40	301.20	297.87	295.28	293.34	294.77	296.38	299.41	297.40	301.20	297.87	295.28	293.34	294.77	296.38	299.41	297.40
67.50°	261.66	264.98	261.80	259.24	256.97	258.21	260.32	263.26	261.66	264.98	261.80	259.24	256.97	258.21	260.32	263.26	261.66
70.00°	226.12	228.76	225.43	222.48	220.62	221.43	224.32	227.13	226.12	228.76	225.43	222.48	220.62	221.43	224.32	227.13	226.12
72.50°	191.13	192.64	188.83	184.84	183.52	184.66	188.92	191.22	191.13	192.64	188.83	184.84	183.52	184.66	188.92	191.22	191.13
75.00°	156.33	156.76	152.89	148.14	146.13	148.40	153.53	155.55	156.33	156.76	152.89	148.14	146.13	148.40	153.53	155.55	156.33
77.50°	122.02	122.51	117.36	112.47	109.94	112.28	118.83	121.41	122.02	122.51	117.36	112.47	109.94	112.28	118.83	121.41	122.02
80.00°	89.07	88.90	83.59	78.00	74.12	78.38	84.37	88.71	89.07	88.90	83.59	78.00	74.12	78.38	84.37	88.71	89.07
82.50°	59.00	58.41	50.79	44.64	45.49	45.79	54.32	58.09	59.00	58.41	50.79	44.64	45.49	45.79	54.32	58.09	59.00
85.00°	33.33	31.02	27.83	22.21	18.64	24.55	25.88	29.20	33.33	31.02	27.83	22.21	18.64	24.55	25.88	29.20	33.33
87.50°	15.46	15.62	9.37	8.50	9.16	5.99	13.53	12.61	15.46	15.62	9.37	8.50	9.16	5.99	13.53	12.61	15.46
90.00°	3.97	3.68	3.26	2.54	3.00	3.68	2.61	4.74	3.97	3.68	3.26	2.54	3.00	3.68	2.61	4.74	3.97
92.50°	2.35	2.48	1.86	2.01	2.10	1.79	2.06	1.81	2.35	2.48	1.86	2.01	2.10	1.79	2.06	1.81	2.35
95.00°	1.42	1.65	1.52	1.75	1.93	1.91	1.59	1.84	1.42	1.65	1.52	1.75	1.93	1.91	1.59	1.84	1.42
97.50°	1.41	1.76	1.53	1.65	1.75	2.03	1.59	1.81	1.41	1.76	1.53	1.65	1.75	2.03	1.59	1.81	1.41
100.00°	1.47	1.81	1.74	1.69	1.57	2.09	1.58	1.73	1.47	1.81	1.74	1.69	1.57	2.09	1.58	1.73	1.47
102.50°	1.61	1.74	1.99	1.81	1.75	2.12	1.52	1.64	1.61	1.74	1.99	1.81	1.75	2.12	1.52	1.64	1.61
105.00°	1.72	1.72	1.78	1.77	1.94	2.05	1.52	1.55	1.72	1.72	1.78	1.77	1.94	2.05	1.52	1.55	1.72

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	2863	2863	2863	2863	2795	2795	2795	2795	2668	2668	2668	2552	2552	2552	2445	2445	2445	2395
	1	2619	2505	2403	2311	2552	2449	2356	2272	2345	2268	2198	2249	2186	2129	2160	2110	2064	2064
	2	2381	2183	2020	1883	2316	2137	1987	1859	2049	1923	1814	1969	1863	1771	1894	1807	1729	1766
	3	2170	1917	1721	1565	2109	1878	1696	1550	1804	1649	1520	1736	1604	1492	1673	1561	1465	1525
	4	1986	1698	1486	1325	1930	1665	1467	1315	1603	1431	1295	1545	1396	1276	1491	1363	1258	1333
RCR	5	1826	1516	1300	1140	1774	1489	1285	1133	1436	1257	1119	1387	1230	1106	1341	1203	1093	1177
	6	1686	1365	1149	994	1639	1341	1138	989	1297	1115	980	1255	1093	970	1216	1072	960	1049
	7	1563	1237	1026	878	1521	1217	1016	874	1179	998	867	1143	981	859	1109	964	852	944
	8	1455	1129	924	783	1417	1112	916	780	1079	901	774	1048	886	769	1019	872	763	855
	9	1359	1036	838	704	1325	1021	831	702	993	819	697	966	807	693	941	795	689	780
	10	1274	956	765	638	1243	943	760	636	918	749	633	895	739	629	873	729	626	716

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	28.0 fc	16.3 ft
6.5 ft	20.0 fc	19.2 ft
7.5 ft	15.1 fc	22.2 ft
8.0 ft	13.2 fc	23.7 ft
10.0 ft	8.5 fc	29.6 ft
12.0 ft	5.9 fc	35.5 ft
14.0 ft	4.3 fc	41.4 ft
16.0 ft	3.3 fc	47.4 ft
20.0 ft	2.1 fc	59.2 ft
24.0 ft	1.5 fc	71.0 ft
28.0 ft	1.1 fc	82.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	30386	30386	30386
45.00°	28520	28591	28533
55.00°	27323	27356	27159
65.00°	25249	25289	24904
75.00°	21672	21195	20258
85.00°	13722	11455	7674

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	23.7	25.3	24.1	25.6	26.0	23.6	25.2	24.0	25.5	25.9
	3H	25.5	26.9	25.8	27.3	27.6	25.3	26.8	25.7	27.1	27.5
	4H	26.1	27.5	26.5	27.8	28.2	25.9	27.3	26.3	27.7	28.1
	6H	26.5	27.8	27.0	28.2	28.6	26.3	27.6	26.7	27.9	28.3
	8H	26.7	27.9	27.1	28.3	28.7	26.4	27.6	26.8	28.0	28.4
	12H	26.7	27.9	27.2	28.3	28.7	26.4	27.6	26.8	27.9	28.4
4H	2H	24.3	25.7	24.7	26.0	26.4	24.2	25.6	24.6	26.0	26.4
	3H	26.3	27.4	26.7	27.9	28.3	26.2	27.3	26.6	27.7	28.2
	4H	27.1	28.1	27.5	28.5	29.0	26.9	27.9	27.3	28.4	28.8
	6H	27.6	28.5	28.1	29.0	29.4	27.4	28.3	27.8	28.7	29.2
	8H	27.8	28.6	28.2	29.1	29.6	27.5	28.3	27.9	28.8	29.2
	12H	27.9	28.6	28.4	29.1	29.6	27.5	28.3	28.0	28.7	29.2
8H	4H	27.3	28.2	27.8	28.6	29.1	27.2	28.0	27.7	28.5	29.0
	6H	28.0	28.7	28.5	29.2	29.7	27.7	28.4	28.2	28.9	29.4
	8H	28.2	28.8	28.7	29.4	29.9	27.9	28.5	28.4	29.0	29.5
	12H	28.4	28.9	28.9	29.4	30.0	28.0	28.5	28.5	29.0	29.6
12H	4H	27.3	28.1	27.8	28.6	29.1	27.2	28.0	27.7	28.5	28.9
	6H	28.0	28.7	28.6	29.1	29.7	27.8	28.4	28.3	28.9	29.4
	8H	28.3	28.8	28.8	29.3	29.9	28.0	28.5	28.5	29.0	29.6

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0