

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SAFI4XT 20L 35K ND xx SA4FXT MW PGX (aimed at 0 deg - nadir)
Nom 4 inch square adj accent downlight (measured at nadir) with ND optic

Test Number

SP-01264_3

Test Date

8/4/2021

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

Summary of Results

Power

Input Watts	24.8 W
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Lumen Output

Output Lumens	1714
Efficacy	69.1 lm/W

Luminous Dimensions

0° - 180° Size	0.33
90° - 270° Size	0.33
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.62
Two luminaires, plane 90°	0.58
Four luminaires	0.64

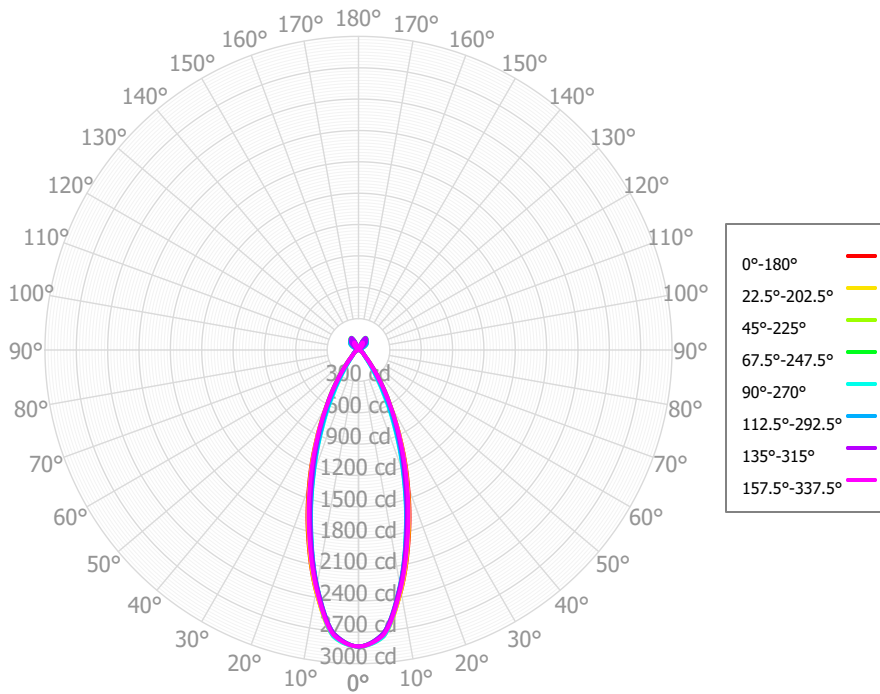
Full Beam Angle

0° - 180°	39°
90° - 270°	37°

IES File Header Contents

Keyword	Value
TEST	SP-01264_3
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	8/4/2021
ISSUEDATE	8/18/2021
LUMCAT	SAFI4XT 20L 35K ND xx SA4FXT MW PGX (aimed at 0 deg - nadir)
LUMINAIRE	Nom 4 inch square adj accent downlight (measured at nadir) with ND optic
OTHER	Matte white finish, Prismatic lens
OTHER	Beam Angle: 39 deg
LAMP	N/A
LAMPCAT	N/A, 19mm LES
OTHER	LEDXT lumen output is the same for all available CCT's
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	83
_CCTMULT	Same for all available CCT's
_LAMPMULT	10L x 0.48, 13L x 0.65

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	257.61	15.03%	90.00° - 100.00°	1.53	0.09%
10.00° - 20.00°	487.74	28.46%	100.00° - 110.00°	1.52	0.09%
20.00° - 30.00°	407.58	23.78%	100.00° - 120.00°	10.70	0.62%
30.00° - 40.00°	207.64	12.12%	120.00° - 130.00°	30.73	1.79%
40.00° - 50.00°	82.55	4.82%	130.00° - 140.00°	48.22	2.81%
50.00° - 60.00°	48.94	2.86%	140.00° - 150.00°	54.30	3.17%
60.00° - 70.00°	28.42	1.66%	150.00° - 160.00°	31.44	1.83%
70.00° - 80.00°	9.36	0.55%	160.00° - 170.00°	3.91	0.23%
80.00° - 90.00°	2.80	0.16%	170.00° - 180.00°	0.22	0.01%
0.00° - 90.00°	1532.65	89.44%	0.00° - 180.00°	1713.69	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°	2836.77	2836.77	2836.77	2836.77	2836.77	2836.77	2836.77	2836.77	2836.77	2836.77	2836.77	2836.77	2836.77	2836.77	2836.77	2836.77	2836.77
5.00°	2732.93	2750.28	2735.24	2723.42	2752.48	2724.01	2722.27	2738.63	2732.93	2750.28	2735.24	2723.42	2752.48	2724.01	2722.27	2738.63	2732.93
10.00°	2341.16	2340.18	2312.68	2293.01	2299.91	2286.44	2293.99	2321.61	2341.16	2340.18	2312.68	2293.01	2299.91	2286.44	2293.99	2321.61	2341.16
15.00°	1859.26	1845.38	1795.64	1765.01	1753.18	1755.43	1774.18	1825.03	1859.26	1845.38	1795.64	1765.01	1753.18	1755.43	1774.18	1825.03	1859.26
20.00°	1385.69	1367.82	1311.53	1269.06	1244.71	1258.93	1294.21	1353.80	1385.69	1367.82	1311.53	1269.06	1244.71	1258.93	1294.21	1353.80	1385.69
25.00°	955.16	950.03	916.48	853.60	814.31	843.46	904.59	937.92	955.16	950.03	916.48	853.60	814.31	843.46	904.59	937.92	955.16
30.00°	590.37	597.22	606.40	524.71	468.39	514.42	597.09	593.11	590.37	597.22	606.40	524.71	468.39	514.42	597.09	593.11	590.37
35.00°	328.88	338.31	365.89	291.78	247.60	284.61	360.38	337.89	328.88	338.31	365.89	291.78	247.60	284.61	360.38	337.89	328.88
40.00°	174.96	179.12	199.92	155.62	134.94	152.91	197.63	179.56	174.96	179.12	199.92	155.62	134.94	152.91	197.63	179.56	174.96
45.00°	97.11	98.94	110.83	92.92	85.38	92.40	107.41	98.61	97.11	98.94	110.83	92.92	85.38	92.40	107.41	98.61	97.11
50.00°	65.01	68.12	70.53	70.00	66.22	69.58	68.45	67.66	65.01	68.12	70.53	70.00	66.22	69.58	68.45	67.66	65.01
55.00°	52.22	53.05	54.42	57.90	56.28	57.56	52.68	52.68	52.22	53.05	54.42	57.90	56.28	57.56	52.68	52.68	52.22
60.00°	40.48	41.33	42.09	45.73	44.08	45.33	41.40	40.36	40.48	41.33	42.09	45.73	44.08	45.33	41.40	40.36	40.48
65.00°	26.38	28.06	27.37	30.89	29.03	30.65	28.67	28.09	26.38	28.06	27.37	30.89	29.03	30.65	28.67	28.09	26.38
70.00°	14.80	15.09	14.64	16.52	15.76	17.34	16.57	15.87	14.80	15.09	14.64	16.52	15.76	17.34	16.57	15.87	14.80
75.00°	7.58	7.24	7.99	8.06	8.05	8.43	8.36	7.27	7.58	7.24	7.99	8.06	8.05	8.43	8.36	7.27	7.58
80.00°	3.83	3.88	4.25	4.38	4.63	4.05	4.02	4.14	3.83	3.88	4.25	4.38	4.63	4.05	4.02	4.14	3.83
85.00°	2.28	2.12	1.93	2.44	2.62	2.15	2.35	2.51	2.28	2.12	1.93	2.44	2.62	2.15	2.35	2.51	2.28
90.00°	1.66	1.39	1.36	1.64	1.81	1.54	1.42	1.66	1.66	1.39	1.36	1.64	1.81	1.54	1.42	1.66	1.66
95.00°	1.39	1.32	1.35	1.41	1.40	1.40	1.24	1.34	1.39	1.32	1.35	1.41	1.40	1.40	1.24	1.34	1.39
100.00°	1.27	1.26	1.09	1.28	1.43	1.40	1.44	1.42	1.27	1.26	1.09	1.28	1.43	1.40	1.44	1.42	1.27
105.00°	1.21	1.33	1.30	1.45	1.48	1.65	1.54	1.28	1.21	1.33	1.30	1.45	1.48	1.65	1.54	1.28	1.21
110.00°	1.30	1.71	1.55	1.65	1.58	2.00	1.63	1.60	1.30	1.71	1.55	1.65	1.58	2.00	1.63	1.60	1.30
115.00°	1.37	1.94	1.54	16.94	7.01	25.07	2.58	1.64	1.37	1.94	1.54	16.94	7.01	25.07	2.58	1.64	1.37
120.00°	1.35	1.93	2.13	65.05	27.86	66.35	7.38	1.48	1.35	1.93	2.13	65.05	27.86	66.35	7.38	1.48	1.35
125.00°	1.54	2.01	9.49	91.37	49.98	92.63	28.23	1.95	1.54	2.01	9.49	91.37	49.98	92.63	28.23	1.95	1.54
130.00°	1.95	3.52	38.37	102.98	56.70	105.01	68.23	5.18	1.95	3.52	38.37	102.98	56.70	105.01	68.23	5.18	1.95
135.00°	6.38	13.45	81.31	111.56	59.70	112.89	98.10	23.37	6.38	13.45	81.31	111.56	59.70	112.89	98.10	23.37	6.38
140.00°	17.34	32.62	96.41	122.47	63.68	120.29	113.52	53.35	17.34	32.62	96.41	122.47	63.68	120.29	113.52	53.35	17.34
145.00°	23.37	47.25	113.04	132.99	66.03	128.60	127.89	75.06	23.37	47.25	113.04	132.99	66.03	128.60	127.89	75.06	23.37
150.00°	21.02	50.23	121.71	134.79	63.04	129.45	132.55	82.00	21.02	50.23	121.71	134.79	63.04	129.45	132.55	82.00	21.02
155.00°	14.41	39.05	95.09	101.97	49.36	92.53	100.17	63.58	14.41	39.05	95.09	101.97	49.36	92.53	100.17	63.58	14.41
160.00°	8.21	17.89	40.38	36.03	23.95	34.91	42.82	30.21	8.21	17.89	40.38	36.03	23.95	34.91	42.82	30.21	8.21
165.00°	4.59	5.50	8.99	7.84	5.74	7.79	10.01	8.33	4.59	5.50	8.99	7.84	5.74	7.79	10.01	8.33	4.59
170.00°	2.35	2.14	2.49	2.40	2.37	2.45	2.96	2.89	2.35	2.14	2.49	2.40	2.37	2.45	2.96	2.89	2.35
175.00°	2.13	2.01	1.94	1.55	1.92	2.12	1.99	1.74	2.13	2.01	1.94	1.55	1.92	2.12	1.99	1.74	2.13
180.00°	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72

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	1997	1997	1997	1997	1930	1930	1930	1930	1804	1804	1804	1688	1688	1688	1582	1582	1533
	1	1896	1846	1802	1761	1835	1792	1752	1716	1689	1659	1631	1595	1572	1550	1508	1491	1475
	2	1797	1711	1640	1580	1742	1666	1602	1548	1581	1531	1487	1503	1463	1428	1431	1400	1373
	3	1705	1592	1505	1436	1655	1555	1476	1413	1484	1420	1367	1418	1367	1324	1358	1317	1282
	4	1618	1488	1392	1319	1573	1456	1369	1301	1396	1324	1267	1341	1281	1233	1289	1241	1200
	5	1538	1395	1295	1222	1497	1368	1276	1208	1317	1240	1181	1270	1205	1154	1226	1172	1128
	6	1464	1313	1212	1139	1427	1290	1196	1128	1246	1166	1106	1205	1137	1085	1167	1109	1064
	7	1396	1240	1138	1067	1362	1220	1125	1059	1182	1100	1041	1146	1076	1024	1113	1053	1006
	8	1333	1174	1074	1005	1302	1156	1063	998	1123	1041	983	1092	1021	969	1063	1001	954
	9	1275	1115	1016	950	1247	1099	1007	944	1070	989	932	1043	971	919	1017	954	907
	10	1221	1061	965	901	1195	1047	957	896	1021	941	885	997	925	875	974	911	865

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	93.8 fc	3.8 ft
6.5 ft	67.1 fc	4.5 ft
7.5 ft	50.4 fc	5.2 ft
8.0 ft	44.3 fc	5.5 ft
10.0 ft	28.4 fc	6.9 ft
12.0 ft	19.7 fc	8.3 ft
14.0 ft	14.5 fc	9.6 ft
16.0 ft	11.1 fc	11.0 ft
20.0 ft	7.1 fc	13.8 ft
24.0 ft	4.9 fc	16.5 ft
28.0 ft	3.6 fc	19.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	280393	280393	280393
45.00°	13575	15492	11935
55.00°	8999	9378	9699
65.00°	6170	6401	6791
75.00°	2893	3052	3073
85.00°	2590	2188	2969

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	13.6	14.5	14.2	15.1	15.6	14.3	15.2	14.8	15.7	16.3
	3H	14.4	15.2	14.9	15.7	16.3	15.0	15.8	15.6	16.4	17.0
	4H	14.5	15.2	15.1	15.8	16.4	15.1	15.9	15.7	16.4	17.1
	6H	14.5	15.2	15.1	15.7	16.4	15.1	15.8	15.7	16.4	17.0
	8H	14.5	15.1	15.1	15.7	16.4	15.1	15.8	15.7	16.4	17.0
	12H	14.5	15.1	15.1	15.7	16.3	15.1	15.7	15.7	16.3	17.0
4H	2H	13.9	14.7	14.5	15.2	15.9	14.5	15.2	15.1	15.8	16.4
	3H	14.7	15.4	15.3	16.0	16.6	15.3	15.9	15.9	16.5	17.2
	4H	14.9	15.4	15.5	16.0	16.7	15.4	16.0	16.1	16.6	17.3
	6H	14.9	15.4	15.6	16.0	16.8	15.5	16.0	16.2	16.6	17.3
	8H	14.9	15.4	15.6	16.0	16.7	15.5	16.0	16.2	16.6	17.3
	12H	15.0	15.3	15.6	16.0	16.7	15.5	15.9	16.2	16.6	17.3
8H	4H	14.9	15.3	15.5	15.9	16.6	15.4	15.8	16.0	16.5	17.2
	6H	15.0	15.3	15.6	16.0	16.7	15.5	15.9	16.2	16.5	17.3
	8H	15.0	15.3	15.7	16.0	16.7	15.6	15.9	16.3	16.6	17.3
	12H	15.1	15.3	15.8	16.0	16.8	15.6	15.9	16.3	16.6	17.4
12H	4H	14.8	15.2	15.5	15.9	16.6	15.3	15.7	16.0	16.4	17.1
	6H	14.9	15.2	15.6	15.9	16.7	15.5	15.8	16.2	16.4	17.2
	8H	15.0	15.3	15.7	15.9	16.7	15.5	15.8	16.2	16.5	17.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0