

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SAZI4XT 20L 35K WD xx SA4NXT MW PGX (aimed at 0 deg - nadir)
Nom 4 inch square adj accent downlight (measured at nadir) with WD optic

Test Number

SP-01257_3

Test Date

8/4/2021

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

Summary of Results

Power

Input Watts	24.6 W
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Lumen Output

Output Lumens	1303
Efficacy	52.96 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.71
Two luminaires, plane 90°	0.69
Four luminaires	0.74

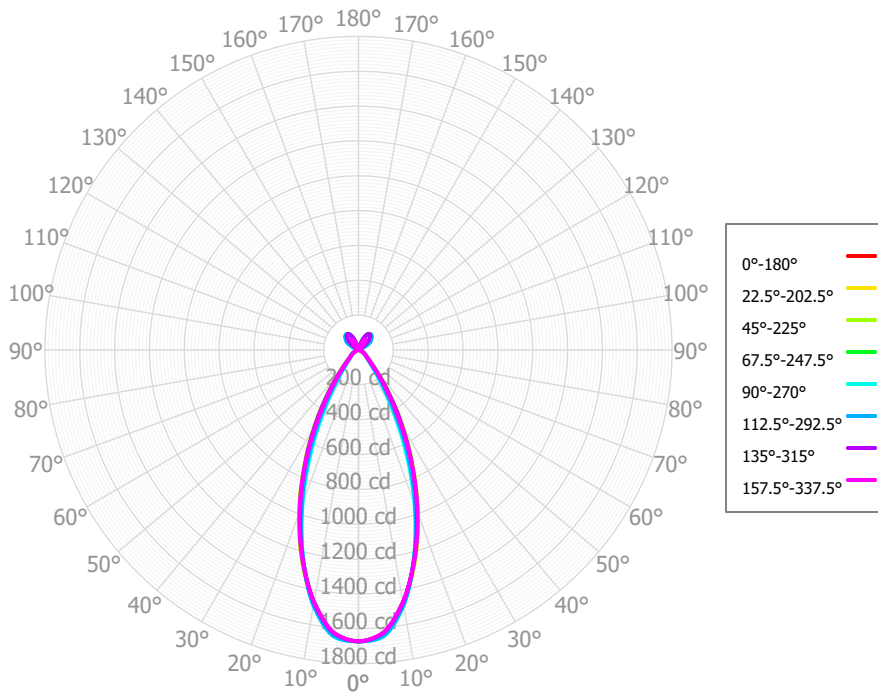
Full Beam Angle

0° - 180°	46°
90° - 270°	44°

IES File Header Contents

Keyword	Value
TEST	SP-01257_3
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	8/4/2021
ISSUEDATE	8/5/2021
LUMCAT	SAZI4XT 20L 35K WD xx SA4NXT MW PGX (aimed at 0 deg - nadir)
LUMINAIRE	Nom 4 inch square adj accent downlight (measured at nadir) with WD optic
OTHER	Matte white finish, Prismatic lens
OTHER	Beam Angle: 46 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°	158.58	12.17%	90.00° - 100.00°	1.64	0.13%
10.00° - 20.00°	337.94	25.94%	100.00° - 110.00°	1.67	0.13%
20.00° - 30.00°	317.32	24.36%	100.00° - 120.00°	9.17	0.70%
30.00° - 40.00°	171.89	13.20%	120.00° - 130.00°	27.54	2.11%
40.00° - 50.00°	73.05	5.61%	130.00° - 140.00°	44.94	3.45%
50.00° - 60.00°	43.17	3.31%	140.00° - 150.00°	48.81	3.75%
60.00° - 70.00°	24.32	1.87%	150.00° - 160.00°	27.76	2.13%
70.00° - 80.00°	7.98	0.61%	160.00° - 170.00°	5.67	0.43%
80.00° - 90.00°	2.63	0.20%	170.00° - 180.00°	0.31	0.02%
0.00° - 90.00°	1136.87	87.27%	0.00° - 180.00°	1302.71	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°	1672.33	1672.33	1672.33	1672.33	1672.33	1672.33	1672.33	1672.33	1672.33	1672.33	1672.33	1672.33	1672.33	1672.33	1672.33	1672.33	1672.33
5.00°	1633.00	1633.81	1637.13	1639.81	1650.39	1646.29	1631.61	1628.71	1633.00	1633.81	1637.13	1639.81	1650.39	1646.29	1631.61	1628.71	1633.00
10.00°	1470.44	1474.51	1478.48	1481.58	1489.59	1487.92	1472.25	1469.68	1470.44	1474.51	1478.48	1481.58	1489.59	1487.92	1472.25	1469.68	1470.44
15.00°	1245.98	1251.56	1250.64	1237.90	1231.88	1234.24	1238.96	1244.18	1245.98	1251.56	1250.64	1237.90	1231.88	1234.24	1238.96	1244.18	1245.98
20.00°	987.34	995.55	992.87	962.32	940.18	952.83	980.20	989.59	987.34	995.55	992.87	962.32	940.18	952.83	980.20	989.59	987.34
25.00°	714.47	726.91	738.31	691.87	644.06	678.48	726.62	722.73	714.47	726.91	738.31	691.87	644.06	678.48	726.62	722.73	714.47
30.00°	454.62	475.23	506.83	442.83	379.70	422.96	494.41	472.04	454.62	475.23	506.83	442.83	379.70	422.96	494.41	472.04	454.62
35.00°	260.56	278.48	313.47	251.35	205.83	233.41	301.08	276.70	260.56	278.48	313.47	251.35	205.83	233.41	301.08	276.70	260.56
40.00°	146.74	154.34	178.30	137.60	117.44	127.83	166.71	153.76	146.74	154.34	178.30	137.60	117.44	127.83	166.71	153.76	146.74
45.00°	86.88	90.72	102.50	83.82	77.14	78.68	94.49	89.39	86.88	90.72	102.50	83.82	77.14	78.68	94.49	89.39	86.88
50.00°	59.12	62.32	67.36	62.09	57.42	60.13	62.14	61.58	59.12	62.32	67.36	62.09	57.42	60.13	62.14	61.58	59.12
55.00°	46.17	46.72	49.71	50.03	48.11	49.94	47.46	46.78	46.17	46.72	49.71	50.03	48.11	49.94	47.46	46.78	46.17
60.00°	36.30	34.97	36.56	37.80	38.15	37.10	35.78	34.76	36.30	34.97	36.56	37.80	38.15	37.10	35.78	34.76	36.30
65.00°	24.70	24.06	24.35	25.11	25.74	25.16	23.59	23.93	24.70	24.06	24.35	25.11	25.74	25.16	23.59	23.93	24.70
70.00°	13.50	13.23	14.15	13.25	13.84	13.13	12.89	13.73	13.50	13.23	14.15	13.25	13.84	13.13	12.89	13.73	13.50
75.00°	6.94	6.43	7.28	6.67	6.32	6.27	6.69	6.64	6.94	6.43	7.28	6.67	6.32	6.27	6.69	6.64	6.94
80.00°	3.62	3.82	3.78	3.73	3.58	3.31	3.61	3.76	3.62	3.82	3.78	3.73	3.58	3.31	3.61	3.76	3.62
85.00°	2.13	2.17	2.18	2.11	2.19	2.28	2.30	2.44	2.13	2.17	2.18	2.11	2.19	2.28	2.30	2.44	2.13
90.00°	1.43	1.54	1.56	1.60	1.36	1.65	1.68	1.67	1.43	1.54	1.56	1.60	1.36	1.65	1.68	1.67	1.43
95.00°	1.34	1.40	1.62	1.51	1.48	1.55	1.60	1.18	1.34	1.40	1.62	1.51	1.48	1.55	1.60	1.18	1.34
100.00°	1.57	1.38	1.71	1.65	1.45	1.55	1.49	1.41	1.57	1.38	1.71	1.65	1.45	1.55	1.49	1.41	1.57
105.00°	1.71	1.55	1.62	1.69	1.34	1.46	1.40	1.54	1.71	1.55	1.62	1.69	1.34	1.46	1.40	1.54	1.71
110.00°	1.79	1.64	1.55	1.81	1.33	2.51	1.59	1.69	1.79	1.64	1.55	1.81	1.33	2.51	1.59	1.69	1.79
115.00°	1.79	1.71	2.06	11.45	5.68	14.87	2.32	1.81	1.79	1.71	2.06	11.45	5.68	14.87	2.32	1.81	1.79
120.00°	1.67	1.98	3.84	56.22	23.48	54.96	6.43	1.87	1.67	1.98	3.84	56.22	23.48	54.96	6.43	1.87	1.67
125.00°	1.72	2.55	10.85	79.61	45.38	84.28	22.71	2.83	1.72	2.55	10.85	79.61	45.38	84.28	22.71	2.83	1.72
130.00°	2.72	4.66	33.64	90.75	53.80	96.49	56.03	6.83	2.72	4.66	33.64	90.75	53.80	96.49	56.03	6.83	2.72
135.00°	7.51	11.76	72.00	106.53	58.50	107.77	88.13	21.00	7.51	11.76	72.00	106.53	58.50	107.77	88.13	21.00	7.51
140.00°	18.71	30.11	97.79	114.43	61.76	112.12	104.36	49.13	18.71	30.11	97.79	114.43	61.76	112.12	104.36	49.13	18.71
145.00°	27.58	44.71	105.76	113.29	62.99	111.07	110.95	69.98	27.58	44.71	105.76	113.29	62.99	111.07	110.95	69.98	27.58
150.00°	27.10	44.70	99.07	102.47	58.34	102.29	104.59	71.63	27.10	44.70	99.07	102.47	58.34	102.29	104.59	71.63	27.10
155.00°	22.84	34.74	78.10	79.20	46.50	77.10	84.91	55.71	22.84	34.74	78.10	79.20	46.50	77.10	84.91	55.71	22.84
160.00°	16.69	24.06	45.66	46.88	30.79	44.13	50.50	34.42	16.69	24.06	45.66	46.88	30.79	44.13	50.50	34.42	16.69
165.00°	10.16	12.51	15.64	16.79	13.09	15.30	17.89	13.54	10.16	12.51	15.64	16.79	13.09	15.30	17.89	13.54	10.16
170.00°	3.32	4.25	4.28	4.17	2.87	3.66	5.44	4.56	3.32	4.25	4.28	4.17	2.87	3.66	5.44	4.56	3.32
175.00°	2.33	2.30	2.29	2.17	2.05	2.31	2.27	2.05	2.33	2.30	2.29	2.17	2.05	2.31	2.27	2.05	2.33
180.00°	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02

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	1511	1511	1511	1511	1457	1457	1457	1457	1355	1355	1355	1262	1262	1262	1177	1177	1137
	1	1431	1391	1356	1324	1381	1347	1316	1287	1264	1240	1218	1187	1169	1152	1117	1103	1067
	2	1352	1283	1226	1179	1307	1246	1196	1153	1177	1137	1102	1113	1082	1054	1054	1030	998
	3	1277	1188	1119	1064	1237	1157	1095	1044	1099	1048	1007	1045	1005	971	995	963	934
	4	1208	1104	1028	970	1171	1078	1009	956	1029	972	927	983	936	898	940	902	876
	5	1144	1031	951	893	1111	1008	935	881	966	905	858	927	876	836	890	848	824
	6	1085	965	885	827	1055	946	872	817	910	846	799	876	822	781	844	798	778
	7	1031	907	827	770	1003	890	816	763	859	794	747	829	774	733	801	754	735
	8	981	855	776	721	956	840	766	715	813	748	702	786	730	690	762	713	697
	9	935	808	730	678	912	795	722	672	771	707	662	748	691	651	726	677	662
	10	893	766	690	639	872	755	683	635	733	669	626	712	656	617	693	643	630

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	55.3 fc	4.5 ft
6.5 ft	39.6 fc	5.3 ft
7.5 ft	29.7 fc	6.1 ft
8.0 ft	26.1 fc	6.6 ft
10.0 ft	16.7 fc	8.2 ft
12.0 ft	11.6 fc	9.8 ft
14.0 ft	8.5 fc	11.5 ft
16.0 ft	6.5 fc	13.1 ft
20.0 ft	4.2 fc	16.4 ft
24.0 ft	2.9 fc	19.7 ft
28.0 ft	2.1 fc	22.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	165296	165296	165296
45.00°	12145	14328	10783
55.00°	7956	8567	8290
65.00°	5776	5696	6021
75.00°	2650	2781	2412
85.00°	2419	2470	2479

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	13.5	14.4	14.1	15.0	15.6	14.0	14.9	14.5	15.4	16.1
	3H	14.3	15.1	14.9	15.7	16.4	14.7	15.5	15.3	16.1	16.7
	4H	14.4	15.2	15.0	15.8	16.4	14.7	15.5	15.4	16.1	16.8
	6H	14.4	15.1	15.1	15.7	16.4	14.8	15.5	15.4	16.1	16.8
	8H	14.4	15.1	15.1	15.7	16.4	14.7	15.4	15.4	16.0	16.7
	12H	14.4	15.1	15.1	15.7	16.4	14.7	15.4	15.4	16.0	16.7
4H	2H	13.8	14.5	14.4	15.1	15.8	14.2	14.9	14.8	15.5	16.2
	3H	14.7	15.3	15.3	15.9	16.6	15.0	15.6	15.6	16.2	16.9
	4H	14.8	15.4	15.4	16.0	16.7	15.1	15.6	15.7	16.3	17.0
	6H	14.9	15.4	15.6	16.0	16.8	15.1	15.6	15.8	16.3	17.0
	8H	14.9	15.4	15.6	16.0	16.8	15.1	15.6	15.8	16.3	17.0
	12H	14.9	15.3	15.6	16.0	16.8	15.2	15.5	15.8	16.2	17.0
8H	4H	14.8	15.2	15.5	15.9	16.6	15.0	15.5	15.7	16.1	16.9
	6H	14.9	15.3	15.6	16.0	16.7	15.1	15.5	15.8	16.2	17.0
	8H	15.0	15.3	15.7	16.0	16.8	15.2	15.5	15.9	16.2	17.0
	12H	15.1	15.3	15.8	16.0	16.9	15.3	15.5	16.0	16.2	17.1
12H	4H	14.7	15.1	15.4	15.8	16.6	15.0	15.4	15.7	16.1	16.8
	6H	14.9	15.2	15.6	15.9	16.7	15.1	15.4	15.8	16.1	16.9
	8H	15.0	15.3	15.7	16.0	16.8	15.2	15.5	15.9	16.2	17.0

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0