

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-01258_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	1369
Efficacy	55.66 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.74
Two luminaires, plane 90°	0.73
Four luminaires	0.77

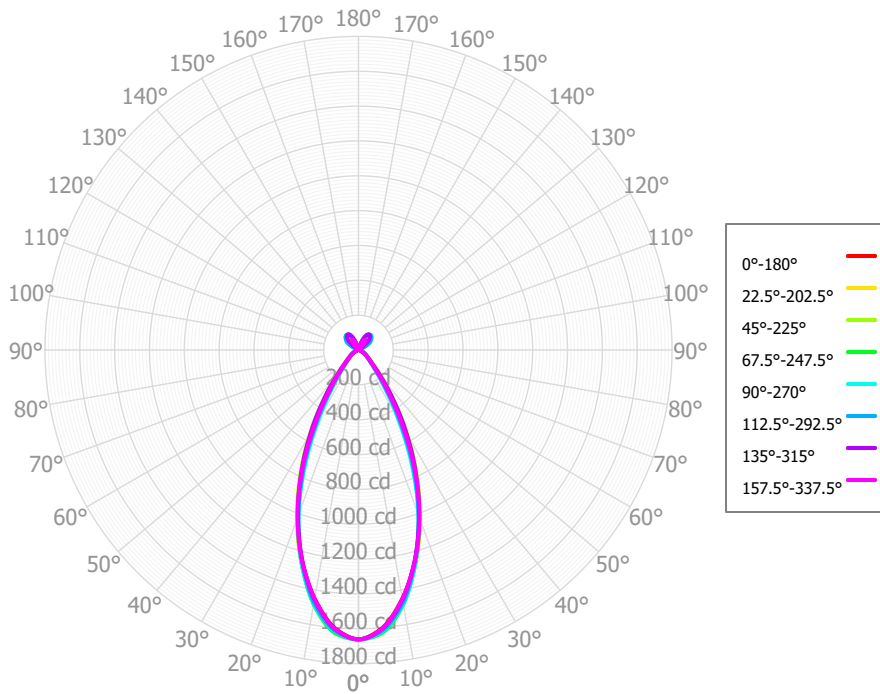
Full Beam Angle

0° - 180°	47°
90° - 270°	46°

IES File Header Contents

Keyword	Value
TEST	SP-01258_3
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	8/4/2021
ISSUEDATE	8/5/2021
LUMCAT	SAZI4XT 20L 35K XW xx SA4NXT MW PGX (aimed at 0 deg - nadir)
LUMINAIRE	Nom 4 inch square adj accent downlight (measured at nadir) with XW optic
OTHER	Matte white finish, Prismatic lens
OTHER	Beam Angle: 47 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°	156.69	11.44%	90.00° - 100.00°	1.60	0.12%
10.00° - 20.00°	343.61	25.09%	100.00° - 110.00°	1.61	0.12%
20.00° - 30.00°	341.45	24.94%	100.00° - 120.00°	9.28	0.68%
30.00° - 40.00°	195.60	14.29%	120.00° - 130.00°	26.89	1.96%
40.00° - 50.00°	86.92	6.35%	130.00° - 140.00°	43.69	3.19%
50.00° - 60.00°	48.72	3.56%	140.00° - 150.00°	47.05	3.44%
60.00° - 70.00°	24.97	1.82%	150.00° - 160.00°	26.32	1.92%
70.00° - 80.00°	8.16	0.60%	160.00° - 170.00°	5.40	0.39%
80.00° - 90.00°	2.59	0.19%	170.00° - 180.00°	0.31	0.02%
0.00° - 90.00°	1208.72	88.28%	0.00° - 180.00°	1369.26	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°	1661.08	1661.08	1661.08	1661.08	1661.08	1661.08	1661.08	1661.08	1661.08	1661.08	1661.08	1661.08	1661.08	1661.08	1661.08	1661.08	1661.08
5.00°	1600.22	1619.22	1614.23	1626.87	1619.07	1613.84	1604.27	1603.74	1600.22	1619.22	1614.23	1626.87	1619.07	1613.84	1604.27	1603.74	1600.22
10.00°	1449.52	1462.48	1467.32	1482.90	1478.93	1471.19	1455.48	1451.41	1449.52	1462.48	1467.32	1482.90	1478.93	1471.19	1455.48	1451.41	1449.52
15.00°	1252.71	1261.02	1262.10	1263.17	1264.36	1254.58	1248.77	1252.53	1252.71	1261.02	1262.10	1263.17	1264.36	1254.58	1248.77	1252.53	1252.71
20.00°	1020.76	1029.25	1029.46	1016.81	1007.59	1007.90	1016.91	1022.37	1020.76	1029.25	1029.46	1016.81	1007.59	1007.90	1016.91	1022.37	1020.76
25.00°	757.46	773.16	789.50	757.93	723.34	746.63	777.60	768.55	757.46	773.16	789.50	757.93	723.34	746.63	777.60	768.55	757.46
30.00°	490.99	516.05	558.13	497.20	450.95	484.98	546.39	511.20	490.99	516.05	558.13	497.20	450.95	484.98	546.39	511.20	490.99
35.00°	292.14	307.57	352.54	288.97	256.17	279.11	344.93	305.73	292.14	307.57	352.54	288.97	256.17	279.11	344.93	305.73	292.14
40.00°	172.90	175.57	204.78	162.16	150.02	156.20	198.74	175.49	172.90	175.57	204.78	162.16	150.02	156.20	198.74	175.49	172.90
45.00°	103.86	106.40	120.37	100.93	96.55	96.07	114.58	104.75	103.86	106.40	120.37	100.93	96.55	96.07	114.58	104.75	103.86
50.00°	69.57	73.53	79.28	73.64	68.39	71.75	75.14	72.20	69.57	73.53	79.28	73.64	68.39	71.75	75.14	72.20	69.57
55.00°	51.95	52.71	56.91	55.91	53.19	55.00	54.32	52.74	51.95	52.71	56.91	55.91	53.19	55.00	54.32	52.74	51.95
60.00°	36.40	36.02	40.99	40.21	39.28	39.03	39.33	36.25	36.40	36.02	40.99	40.21	39.28	39.03	39.33	36.25	36.40
65.00°	23.18	23.30	26.00	25.42	26.53	25.02	24.46	24.46	23.18	23.30	26.00	25.42	26.53	25.02	24.46	24.46	23.18
70.00°	12.85	13.89	14.49	14.87	13.00	14.49	13.05	13.09	12.85	13.89	14.49	14.87	13.00	14.49	13.05	13.09	12.85
75.00°	6.54	6.80	7.68	6.99	6.58	6.92	7.42	5.91	6.54	6.80	7.68	6.99	6.58	6.92	7.42	5.91	6.54
80.00°	3.52	3.55	4.09	3.77	3.72	3.72	3.92	3.39	3.52	3.55	4.09	3.77	3.72	3.72	3.92	3.39	3.52
85.00°	2.13	1.93	2.13	2.23	2.24	2.15	2.07	2.27	2.13	1.93	2.13	2.23	2.24	2.15	2.07	2.27	2.13
90.00°	1.41	1.43	1.59	1.54	1.57	1.43	1.65	1.52	1.41	1.43	1.59	1.54	1.57	1.43	1.65	1.52	1.41
95.00°	1.36	1.41	1.59	1.61	1.70	1.33	1.29	1.37	1.36	1.41	1.59	1.61	1.70	1.33	1.29	1.37	1.36
100.00°	1.51	1.32	1.59	1.67	1.31	1.29	1.39	1.35	1.51	1.32	1.59	1.67	1.31	1.29	1.39	1.35	1.51
105.00°	1.43	1.40	1.52	1.58	1.45	1.39	1.26	1.38	1.43	1.40	1.52	1.58	1.45	1.39	1.26	1.38	1.43
110.00°	1.45	1.70	1.44	2.10	1.44	3.25	1.64	1.56	1.45	1.70	1.44	2.10	1.44	3.25	1.64	1.56	1.45
115.00°	1.60	1.57	1.73	15.90	3.56	18.14	2.28	1.87	1.60	1.57	1.73	15.90	3.56	18.14	2.28	1.87	1.60
120.00°	1.52	1.58	3.55	53.59	23.91	53.98	4.89	2.09	1.52	1.58	3.55	53.59	23.91	53.98	4.89	2.09	1.52
125.00°	1.56	2.02	10.76	80.44	45.78	82.95	19.84	2.67	1.56	2.02	10.76	80.44	45.78	82.95	19.84	2.67	1.56
130.00°	2.25	3.36	32.35	90.41	52.79	94.32	53.05	5.90	2.25	3.36	32.35	90.41	52.79	94.32	53.05	5.90	2.25
135.00°	6.69	10.59	69.06	103.59	57.37	105.15	89.32	19.07	6.69	10.59	69.06	103.59	57.37	105.15	89.32	19.07	6.69
140.00°	17.15	28.03	96.47	110.60	60.69	109.42	101.95	47.14	17.15	28.03	96.47	110.60	60.69	109.42	101.95	47.14	17.15
145.00°	25.83	42.01	102.37	107.99	60.99	107.10	108.48	68.17	25.83	42.01	102.37	107.99	60.99	107.10	108.48	68.17	25.83
150.00°	25.84	41.50	94.10	96.47	57.00	96.74	102.87	68.28	25.84	41.50	94.10	96.47	57.00	96.74	102.87	68.28	25.84
155.00°	21.52	33.59	72.51	73.59	43.80	72.34	81.72	53.34	21.52	33.59	72.51	73.59	43.80	72.34	81.72	53.34	21.52
160.00°	16.06	22.13	42.95	41.53	29.99	41.63	48.36	33.72	16.06	22.13	42.95	41.53	29.99	41.63	48.36	33.72	16.06
165.00°	9.27	9.85	15.01	16.66	14.36	15.38	17.44	13.15	9.27	9.85	15.01	16.66	14.36	15.38	17.44	13.15	9.27
170.00°	3.38	3.89	4.53	4.13	3.01	4.29	4.74	4.92	3.38	3.89	4.53	4.13	3.01	4.29	4.74	4.92	3.38
175.00°	2.04	2.22	2.47	2.03	2.14	2.20	2.07	2.09	2.04	2.22	2.47	2.03	2.14	2.20	2.07	2.09	2.04
180.00°	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88

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	1592	1592	1592	1592	1536	1536	1536	1536	1432	1432	1432	1337	1337	1337	1250	1250	1209
	1	1506	1465	1427	1393	1456	1419	1386	1356	1334	1309	1285	1256	1237	1219	1184	1170	1133
	2	1422	1350	1289	1239	1376	1312	1258	1213	1241	1199	1162	1176	1143	1113	1116	1090	1067
	3	1343	1248	1175	1116	1301	1217	1150	1097	1157	1103	1059	1102	1059	1022	1052	1017	987
	4	1269	1159	1078	1016	1231	1132	1058	1001	1082	1021	972	1035	985	944	992	951	924
	5	1201	1080	995	933	1166	1057	979	921	1014	949	898	974	919	876	937	891	867
	6	1138	1010	924	862	1106	990	911	853	953	885	835	918	861	817	886	837	816
	7	1080	947	862	802	1051	930	851	794	898	829	779	868	809	764	840	789	769
	8	1026	892	807	749	1000	877	798	742	849	779	730	822	762	718	797	745	727
	9	977	842	759	702	953	829	751	697	804	735	687	780	720	676	758	705	689
	10	932	796	715	661	910	785	708	657	763	695	648	742	682	639	722	669	655

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	54.9 fc	4.8 ft
6.5 ft	39.3 fc	5.6 ft
7.5 ft	29.5 fc	6.5 ft
8.0 ft	26.0 fc	6.9 ft
10.0 ft	16.6 fc	8.6 ft
12.0 ft	11.5 fc	10.4 ft
14.0 ft	8.5 fc	12.1 ft
16.0 ft	6.5 fc	13.8 ft
20.0 ft	4.2 fc	17.3 ft
24.0 ft	2.9 fc	20.7 ft
28.0 ft	2.1 fc	24.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	164185	164185	164185
45.00°	14518	16825	13497
55.00°	8952	9808	9167
65.00°	5420	6080	6204
75.00°	2499	2931	2512
85.00°	2420	2413	2537

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	13.9	14.9	14.5	15.4	16.0	14.4	15.3	14.9	15.9	16.5
	3H	14.5	15.4	15.1	15.9	16.6	15.0	15.8	15.6	16.4	17.0
	4H	14.6	15.4	15.2	16.0	16.6	15.1	15.8	15.7	16.4	17.1
	6H	14.6	15.3	15.2	15.9	16.6	15.1	15.8	15.7	16.4	17.0
	8H	14.6	15.3	15.2	15.9	16.6	15.1	15.7	15.7	16.3	17.0
	12H	14.6	15.2	15.2	15.8	16.5	15.0	15.7	15.7	16.3	17.0
4H	2H	14.2	14.9	14.8	15.5	16.2	14.6	15.3	15.2	15.9	16.6
	3H	14.9	15.5	15.5	16.1	16.8	15.3	15.9	15.9	16.5	17.2
	4H	15.0	15.6	15.6	16.2	16.9	15.4	16.0	16.0	16.6	17.3
	6H	15.0	15.5	15.7	16.2	16.9	15.4	15.9	16.1	16.6	17.3
	8H	15.0	15.5	15.7	16.1	16.9	15.5	15.9	16.1	16.6	17.3
	12H	15.1	15.5	15.7	16.1	16.9	15.5	15.9	16.1	16.5	17.3
8H	4H	15.0	15.4	15.6	16.1	16.8	15.4	15.8	16.0	16.5	17.2
	6H	15.1	15.4	15.8	16.1	16.9	15.5	15.8	16.1	16.5	17.2
	8H	15.1	15.4	15.8	16.1	16.9	15.5	15.8	16.2	16.5	17.3
	12H	15.2	15.4	15.9	16.1	17.0	15.6	15.8	16.3	16.5	17.3
12H	4H	14.9	15.3	15.6	16.0	16.7	15.3	15.7	16.0	16.4	17.1
	6H	15.0	15.4	15.7	16.0	16.8	15.4	15.7	16.1	16.4	17.2
	8H	15.1	15.4	15.8	16.1	16.9	15.5	15.8	16.2	16.4	17.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0