

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGECS4SQFX 10L 35K XX CA4FX FO MW

Nom 4" square Chicago Plenum downlight, Fusion Optix lens, Matte white finish

Test Number

SP-01172_M-10L

Test Date

6/16/2020

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

Summary of Results

Power

Input Watts	6.6 W
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Lumen Output

Output Lumens	732
Efficacy	110.97 lm/W

Luminous Dimensions

0° - 180° Size	0.3
90° - 270° Size	0.3
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.11
Two luminaires, plane 90°	1.11
Four luminaires	1.18

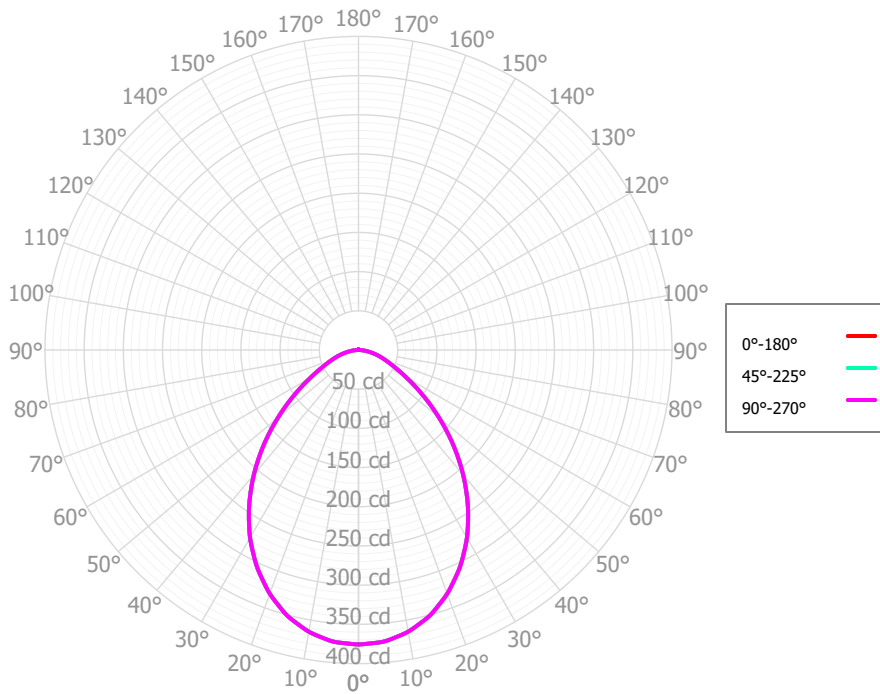
Full Beam Angle

0° - 180°	85°
90° - 270°	85°

IES File Header Contents

Keyword	Value
TEST	SP-01172_M-10L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/16/2020
ISSUEDATE	7/16/2020
LUMCAT	SGECS4SQFX 10L 35K XX CA4FX FO MW
LUMINAIRE	Nom 4" square Chicago Plenum downlight, Fusion Optix lens, Matte white finish
OTHER	Beam angle: 85.4 deg
LAMPCAT	N/A
LAMP	N/A
OTHER	Total luminaire wattage is approximate
OTHER	CCT Output Multipliers: 30K x 0.97, 40K x 1.03, 50K x 1.03
OTHER	This report prepared by Spectrum Lighting, scaled from 40L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	36.80	5.02%	90.00° - 100.00°	0.54	0.07%
10.00° - 20.00°	98.46	13.43%	100.00° - 110.00°	0.33	0.05%
20.00° - 30.00°	140.22	19.12%	100.00° - 120.00°	0.64	0.09%
30.00° - 40.00°	151.45	20.65%	120.00° - 130.00°	0.28	0.04%
40.00° - 50.00°	131.20	17.89%	130.00° - 140.00°	0.24	0.03%
50.00° - 60.00°	89.72	12.23%	140.00° - 150.00°	0.22	0.03%
60.00° - 70.00°	50.26	6.85%	150.00° - 160.00°	0.17	0.02%
70.00° - 80.00°	25.67	3.50%	160.00° - 170.00°	0.10	0.01%
80.00° - 90.00°	7.34	1.00%	170.00° - 180.00°	0.04	0.01%
0.00° - 90.00°	731.12	99.70%	0.00° - 180.00°	733.35	100.00%

Candela Distribution

	0.00°	45.00°	90.00°
0.00°	375.63	375.63	375.63
2.50°	374.63	374.63	374.63
5.00°	373.35	373.35	373.35
7.50°	369.40	369.40	369.40
10.00°	364.93	364.93	364.93
12.50°	358.10	358.10	358.10
15.00°	350.96	350.96	350.96
17.50°	341.04	341.04	341.04
20.00°	330.91	330.91	330.91
22.50°	318.48	318.48	318.48
25.00°	305.94	305.94	305.94
27.50°	291.40	291.40	291.40
30.00°	276.70	276.70	276.70
32.50°	260.07	260.07	260.07
35.00°	243.29	243.29	243.29
37.50°	225.53	225.53	225.53
40.00°	207.63	207.63	207.63
42.50°	189.14	189.14	189.14
45.00°	170.64	170.64	170.64
47.50°	152.11	152.11	152.11
50.00°	133.86	133.86	133.86
52.50°	116.41	116.41	116.41
55.00°	99.70	99.70	99.70
57.50°	84.59	84.59	84.59
60.00°	70.81	70.81	70.81
62.50°	59.37	59.37	59.37
65.00°	49.49	49.49	49.49
67.50°	41.83	41.83	41.83
70.00°	35.14	35.14	35.14
72.50°	29.58	29.58	29.58
75.00°	24.20	24.20	24.20
77.50°	18.97	18.97	18.97
80.00°	14.25	14.25	14.25
82.50°	9.91	9.91	9.91
85.00°	6.25	6.25	6.25
87.50°	3.02	3.02	3.02
90.00°	1.36	1.36	1.36
92.50°	0.54	0.54	0.54
95.00°	0.30	0.30	0.30
97.50°	0.30	0.30	0.30
100.00°	0.32	0.32	0.32
102.50°	0.34	0.34	0.34
105.00°	0.32	0.32	0.32
107.50°	0.29	0.29	0.29
110.00°	0.29	0.29	0.29
112.50°	0.30	0.30	0.30

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	873	873	873	873	852	852	852	852	814	814	814	778	778	778	746	746	731
	1	810	780	754	730	791	764	740	718	733	713	695	704	688	674	678	665	651
	2	748	696	653	617	729	682	643	610	657	624	596	633	606	582	611	589	576
	3	691	623	571	530	673	612	564	525	591	550	516	571	536	507	553	523	512
	4	639	562	505	461	623	552	499	458	534	488	452	518	478	446	502	468	458
	5	593	509	450	406	579	501	445	404	486	437	400	472	429	396	458	421	413
	6	552	463	404	362	538	457	401	360	444	394	357	432	388	354	421	381	374
	7	515	424	366	325	503	419	363	323	408	358	321	397	352	319	388	347	341
	8	482	390	333	294	471	386	331	293	376	326	291	367	322	289	359	318	312
	9	452	361	305	267	442	357	303	267	349	300	265	341	296	264	334	293	288
	10	425	335	281	245	416	331	279	245	324	276	244	318	274	242	311	271	266

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	12.4 fc	10.1 ft
6.5 ft	8.9 fc	12.0 ft
7.5 ft	6.7 fc	13.8 ft
8.0 ft	5.9 fc	14.8 ft
10.0 ft	3.8 fc	18.4 ft
12.0 ft	2.6 fc	22.1 ft
14.0 ft	1.9 fc	25.8 ft
16.0 ft	1.5 fc	29.5 ft
20.0 ft	0.9 fc	36.9 ft
24.0 ft	0.7 fc	44.3 ft
28.0 ft	0.5 fc	51.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	44,926	44,926	44,926
45.00°	28,863	28,863	28,863
55.00°	20,790	20,790	20,790
65.00°	14,006	14,006	14,006
75.00°	11,181	11,181	11,181
85.00°	8,580	8,580	8,580

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	21.3	22.8	21.7	23.1	23.4	21.3	22.8	21.7	23.1	23.4
	3H	22.4	23.7	22.8	24.0	24.4	22.4	23.7	22.8	24.0	24.4
	4H	22.8	24.0	23.2	24.4	24.8	22.8	24.0	23.2	24.4	24.8
	6H	23.1	24.2	23.5	24.6	25.0	23.1	24.2	23.5	24.6	25.0
	8H	23.2	24.3	23.6	24.7	25.1	23.2	24.3	23.6	24.7	25.1
	12H	23.3	24.3	23.7	24.7	25.1	23.3	24.3	23.7	24.7	25.1
4H	2H	21.6	22.9	22.1	23.2	23.6	21.6	22.9	22.1	23.2	23.6
	3H	22.9	23.9	23.4	24.4	24.8	22.9	23.9	23.4	24.4	24.8
	4H	23.5	24.4	23.9	24.8	25.3	23.5	24.4	23.9	24.8	25.3
	6H	23.9	24.7	24.4	25.1	25.6	23.9	24.7	24.4	25.1	25.6
	8H	24.1	24.8	24.5	25.2	25.7	24.1	24.8	24.5	25.2	25.7
	12H	24.1	24.8	24.6	25.3	25.8	24.1	24.8	24.6	25.3	25.8
8H	4H	23.7	24.4	24.1	24.9	25.3	23.7	24.4	24.1	24.9	25.3
	6H	24.2	24.8	24.7	25.3	25.8	24.2	24.8	24.7	25.3	25.8
	8H	24.4	24.9	24.9	25.5	25.9	24.4	24.9	24.9	25.5	25.9
	12H	24.6	25.0	25.1	25.5	26.1	24.6	25.0	25.1	25.5	26.1
12H	4H	23.7	24.3	24.2	24.8	25.3	23.7	24.3	24.2	24.8	25.3
	6H	24.2	24.8	24.8	25.2	25.8	24.2	24.8	24.8	25.2	25.8
	8H	24.5	24.9	25.0	25.4	26.0	24.5	24.9	25.0	25.4	26.0

Corrected UGR values based on total output lumens

SHR = 1.0