

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

SGECS4SQFX 20L 35K XX CA4FX SO MW
Nom 4" square Chicago Plenum downlight, Solite lens, Matte white finish

Test Number

SP-01174_M-20L

Test Date

6/16/2020

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

Summary of Results

Power

Input Watts	14.1 W
-------------	--------

Lumen Output

Output Lumens	1583
Efficacy	112.24 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.1
Two luminaires, plane 90°	1.1
Four luminaires	1.07

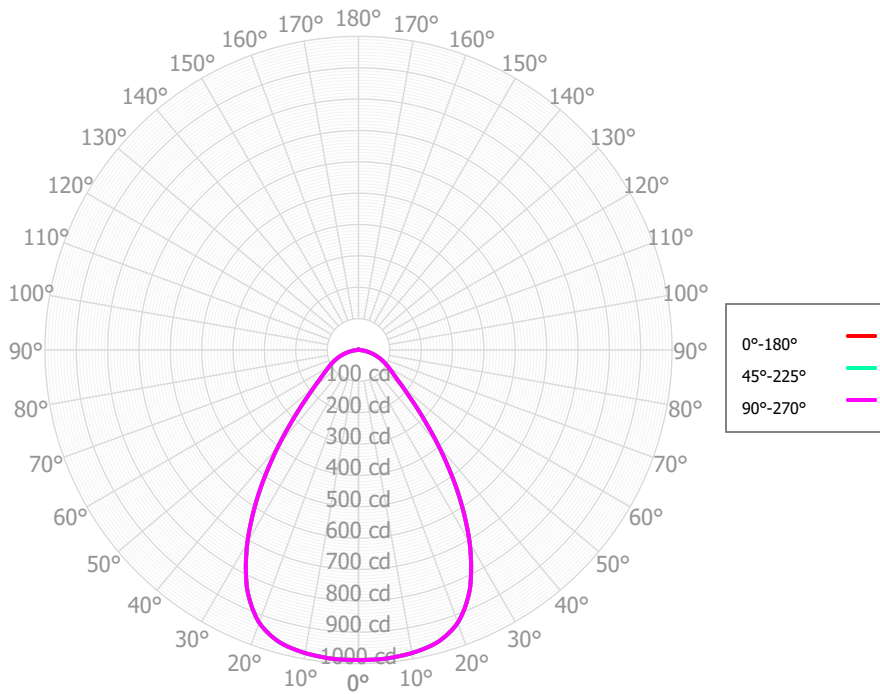
Full Beam Angle

0° - 180°	73°
90° - 270°	73°

IES File Header Contents

Keyword	Value
TEST	SP-01174_M-20L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/16/2020
ISSUEDATE	7/17/2020
LUMCAT	SGECS4SQFX 20L 35K XX CA4FX SO MW
LUMINAIRE	Nom 4" square Chicago Plenum downlight, Solite lens, Matte white finish
OTHER	Beam angle: 73.5 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°	97.99	6.18%	90.00° - 100.00°	1.10	0.07%
10.00° - 20.00°	271.44	17.12%	100.00° - 110.00°	0.56	0.04%
20.00° - 30.00°	381.06	24.04%	100.00° - 120.00°	1.12	0.07%
30.00° - 40.00°	341.28	21.53%	120.00° - 130.00°	0.62	0.04%
40.00° - 50.00°	210.64	13.29%	130.00° - 140.00°	0.57	0.04%
50.00° - 60.00°	126.36	7.97%	140.00° - 150.00°	0.51	0.03%
60.00° - 70.00°	87.61	5.53%	150.00° - 160.00°	0.37	0.02%
70.00° - 80.00°	49.63	3.13%	160.00° - 170.00°	0.25	0.02%
80.00° - 90.00°	14.44	0.91%	170.00° - 180.00°	0.09	0.01%
0.00° - 90.00°	1,580.47	99.71%	0.00° - 180.00°	1,585.09	100.00%

Candela Distribution

	0.00°	45.00°	90.00°
0.00°	988.90	988.90	988.90
2.50°	988.90	988.90	988.90
5.00°	988.32	988.32	988.32
7.50°	985.24	985.24	985.24
10.00°	981.44	981.44	981.44
12.50°	975.29	975.29	975.29
15.00°	966.12	966.12	966.12
17.50°	949.44	949.44	949.44
20.00°	925.75	925.75	925.75
22.50°	888.08	888.08	888.08
25.00°	840.85	840.85	840.85
27.50°	778.18	778.18	778.18
30.00°	708.86	708.86	708.86
32.50°	630.80	630.80	630.80
35.00°	551.13	551.13	551.13
37.50°	469.71	469.71	469.71
40.00°	394.36	394.36	394.36
42.50°	324.44	324.44	324.44
45.00°	267.53	267.53	267.53
47.50°	220.16	220.16	220.16
50.00°	185.25	185.25	185.25
52.50°	157.87	157.87	157.87
55.00°	138.41	138.41	138.41
57.50°	122.82	122.82	122.82
60.00°	110.33	110.33	110.33
62.50°	99.05	99.05	99.05
65.00°	88.43	88.43	88.43
67.50°	78.02	78.02	78.02
70.00°	67.52	67.52	67.52
72.50°	57.00	57.00	57.00
75.00°	46.84	46.84	46.84
77.50°	36.73	36.73	36.73
80.00°	28.16	28.16	28.16
82.50°	19.72	19.72	19.72
85.00°	12.47	12.47	12.47
87.50°	5.32	5.32	5.32
90.00°	3.06	3.06	3.06
92.50°	0.91	0.91	0.91
95.00°	0.73	0.73	0.73
97.50°	0.57	0.57	0.57
100.00°	0.54	0.54	0.54
102.50°	0.52	0.52	0.52
105.00°	0.53	0.53	0.53
107.50°	0.54	0.54	0.54
110.00°	0.55	0.55	0.55
112.50°	0.56	0.56	0.56

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%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	1,886	1,886	1,886	1,886	1,842	1,842	1,842	1,842	1,759	1,759	1,759	1,683	1,683	1,683	1,613	1,613	1,613	1,580
	1	1,761	1,702	1,649	1,601	1,720	1,667	1,618	1,575	1,600	1,561	1,525	1,539	1,507	1,478	1,482	1,457	1,434	1,427
	2	1,639	1,535	1,450	1,378	1,600	1,506	1,428	1,362	1,452	1,387	1,330	1,402	1,348	1,300	1,355	1,311	1,271	1,283
	3	1,526	1,392	1,288	1,205	1,490	1,368	1,272	1,195	1,323	1,241	1,174	1,281	1,212	1,154	1,242	1,184	1,135	1,160
	4	1,423	1,268	1,155	1,068	1,391	1,248	1,143	1,061	1,211	1,119	1,047	1,176	1,097	1,033	1,143	1,076	1,020	1,054
	5	1,330	1,162	1,044	957	1,300	1,145	1,034	952	1,113	1,016	942	1,084	999	932	1,056	982	923	963
	6	1,246	1,069	950	864	1,219	1,055	942	861	1,028	928	854	1,003	914	847	979	901	840	884
	7	1,170	987	869	786	1,145	975	863	784	953	852	779	931	841	774	911	830	769	815
	8	1,100	916	800	720	1,078	906	795	718	886	786	714	867	777	710	850	768	707	755
	9	1,037	853	739	663	1,017	844	735	661	827	728	658	811	720	656	796	713	653	701
	10	980	796	686	613	961	789	683	612	774	677	610	760	671	607	747	665	605	654

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	32.7 fc	8.2 ft
6.5 ft	23.4 fc	9.7 ft
7.5 ft	17.6 fc	11.2 ft
8.0 ft	15.5 fc	11.9 ft
10.0 ft	9.9 fc	14.9 ft
12.0 ft	6.9 fc	17.9 ft
14.0 ft	5.0 fc	20.9 ft
16.0 ft	3.9 fc	23.9 ft
20.0 ft	2.5 fc	29.9 ft
24.0 ft	1.7 fc	35.8 ft
28.0 ft	1.3 fc	41.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	118,271	118,271	118,271
45.00°	45,249	45,249	45,249
55.00°	28,861	28,861	28,861
65.00°	25,027	25,027	25,027
75.00°	21,644	21,644	21,644
85.00°	17,114	17,114	17,114

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	21.4	22.7	21.8	23.1	23.4	21.4	22.7	21.8	23.1	23.4
	3H	23.1	24.3	23.5	24.6	25.0	23.1	24.3	23.5	24.6	25.0
	4H	23.7	24.8	24.1	25.2	25.6	23.7	24.8	24.1	25.2	25.6
	6H	24.2	25.2	24.6	25.5	25.9	24.2	25.2	24.6	25.5	25.9
	8H	24.3	25.3	24.7	25.7	26.1	24.3	25.3	24.7	25.7	26.1
	12H	24.4	25.3	24.8	25.7	26.1	24.4	25.3	24.8	25.7	26.1
4H	2H	22.0	23.1	22.4	23.4	23.8	22.0	23.1	22.4	23.4	23.8
	3H	23.9	24.8	24.3	25.2	25.6	23.9	24.8	24.3	25.2	25.6
	4H	24.6	25.4	25.0	25.8	26.3	24.6	25.4	25.0	25.8	26.3
	6H	25.2	25.9	25.6	26.3	26.8	25.2	25.9	25.6	26.3	26.8
	8H	25.3	26.0	25.8	26.5	26.9	25.3	26.0	25.8	26.5	26.9
	12H	25.5	26.1	26.0	26.5	27.0	25.5	26.1	26.0	26.5	27.0
8H	4H	24.9	25.5	25.3	26.0	26.4	24.9	25.5	25.3	26.0	26.4
	6H	25.5	26.1	26.0	26.6	27.1	25.5	26.1	26.0	26.6	27.1
	8H	25.8	26.3	26.3	26.8	27.3	25.8	26.3	26.3	26.8	27.3
	12H	26.0	26.4	26.5	26.9	27.5	26.0	26.4	26.5	26.9	27.5
12H	4H	24.9	25.4	25.4	25.9	26.4	24.9	25.4	25.4	25.9	26.4
	6H	25.6	26.1	26.1	26.5	27.1	25.6	26.1	26.1	26.5	27.1
	8H	25.9	26.3	26.4	26.8	27.4	25.9	26.3	26.4	26.8	27.4

Corrected UGR values based on total output lumens

SHR = 1.0