

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGECS4FX 40L 35K XX AR4FX60 FO SG
Nom 4" diam Chicago Plenum downlight, Fusion Optix lens, Soft glow finish

Test Number

SP-01171

Test Date

6/16/2020

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

Summary of Results

Power

Input Watts	30.3 W
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Lumen Output

Output Lumens	2756
Efficacy	90.97 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.09
Two luminaires, plane 90°	1.09
Four luminaires	1.09

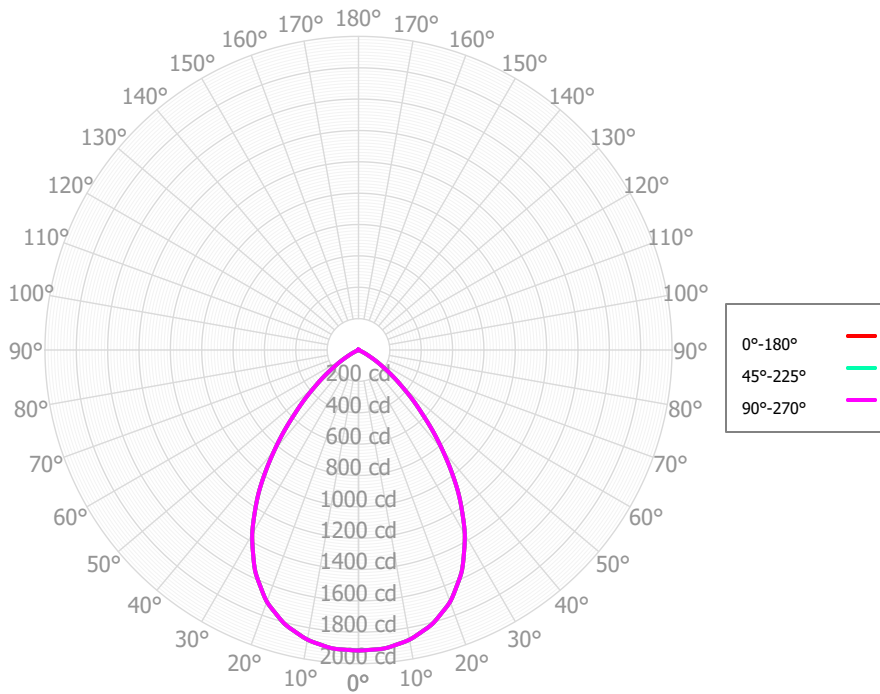
Full Beam Angle

0° - 180°	75°
90° - 270°	75°

IES File Header Contents

Keyword	Value
TEST	SP-01171
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/16/2020
ISSUEDATE	7/15/2020
LUMCAT	SGECS4FX 40L 35K XX AR4FX60 FO SG
LUMINAIRE	Nom 4" diam Chicago Plenum downlight, Fusion Optix lens, Soft glow finish
OTHER	Beam angle: 75.5 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
_CCT	80+
_CCTMULT	30K x 0.97, 40K x 1.03, 50K x 1.03
_LAMPMULT	10L x 0.24, 20L x 0.50, 30L x 0.75

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	188.62	6.83%	90.00° - 100.00°	1.20	0.04%
10.00° - 20.00°	507.84	18.39%	100.00° - 110.00°	1.18	0.04%
20.00° - 30.00°	709.52	25.70%	100.00° - 120.00°	2.32	0.08%
30.00° - 40.00°	684.45	24.79%	120.00° - 130.00°	1.23	0.04%
40.00° - 50.00°	446.70	16.18%	130.00° - 140.00°	1.06	0.04%
50.00° - 60.00°	185.26	6.71%	140.00° - 150.00°	0.94	0.03%
60.00° - 70.00°	28.25	1.02%	150.00° - 160.00°	0.74	0.03%
70.00° - 80.00°	1.26	0.05%	160.00° - 170.00°	0.45	0.02%
80.00° - 90.00°	1.18	0.04%	170.00° - 180.00°	0.16	0.01%
0.00° - 90.00°	2,753.09	99.71%	0.00° - 180.00°	2,761.19	100.00%

Candela Distribution

	0.00°	45.00°	90.00°
0.00°	1,917.13	1,917.13	1,917.13
2.50°	1,914.15	1,914.15	1,914.15
5.00°	1,910.71	1,910.71	1,910.71
7.50°	1,894.23	1,894.23	1,894.23
10.00°	1,876.19	1,876.19	1,876.19
12.50°	1,844.30	1,844.30	1,844.30
15.00°	1,811.15	1,811.15	1,811.15
17.50°	1,760.62	1,760.62	1,760.62
20.00°	1,708.93	1,708.93	1,708.93
22.50°	1,634.06	1,634.06	1,634.06
25.00°	1,558.28	1,558.28	1,558.28
27.50°	1,457.56	1,457.56	1,457.56
30.00°	1,356.34	1,356.34	1,356.34
32.50°	1,233.03	1,233.03	1,233.03
35.00°	1,109.27	1,109.27	1,109.27
37.50°	971.06	971.06	971.06
40.00°	833.24	833.24	833.24
42.50°	702.28	702.28	702.28
45.00°	573.08	573.08	573.08
47.50°	466.04	466.04	466.04
50.00°	361.39	361.39	361.39
52.50°	278.37	278.37	278.37
55.00°	198.33	198.33	198.33
57.50°	139.55	139.55	139.55
60.00°	84.05	84.05	84.05
62.50°	48.21	48.21	48.21
65.00°	16.97	16.97	16.97
67.50°	8.44	8.44	8.44
70.00°	1.50	1.50	1.50
72.50°	1.30	1.30	1.30
75.00°	1.13	1.13	1.13
77.50°	1.08	1.08	1.08
80.00°	1.06	1.06	1.06
82.50°	1.13	1.13	1.13
85.00°	1.16	1.16	1.16
87.50°	1.04	1.04	1.04
90.00°	0.98	0.98	0.98
92.50°	1.04	1.04	1.04
95.00°	1.10	1.10	1.10
97.50°	1.17	1.17	1.17
100.00°	1.19	1.19	1.19
102.50°	1.14	1.14	1.14
105.00°	1.10	1.10	1.10
107.50°	1.09	1.09	1.09
110.00°	1.08	1.08	1.08
112.50°	1.07	1.07	1.07

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	3,285	3,285	3,285	3,285	3,208	3,208	3,208	3,208	3,063	3,063	3,063	2,931	2,931	2,931	2,810	2,810	2,753
	1	3,106	3,019	2,941	2,870	3,036	2,958	2,887	2,823	2,844	2,787	2,735	2,738	2,693	2,651	2,642	2,606	2,553
	2	2,918	2,762	2,633	2,524	2,854	2,713	2,595	2,495	2,620	2,522	2,438	2,534	2,454	2,384	2,455	2,390	2,341
	3	2,736	2,528	2,368	2,240	2,677	2,488	2,340	2,220	2,412	2,286	2,183	2,341	2,235	2,147	2,276	2,187	2,143
	4	2,564	2,319	2,140	2,003	2,509	2,285	2,119	1,990	2,222	2,078	1,965	2,163	2,040	1,940	2,108	2,003	1,963
	5	2,403	2,133	1,944	1,804	2,353	2,105	1,928	1,795	2,051	1,896	1,778	2,002	1,866	1,760	1,955	1,838	1,743
	6	2,255	1,967	1,774	1,636	2,209	1,943	1,761	1,629	1,898	1,737	1,616	1,856	1,713	1,604	1,816	1,690	1,592
	7	2,118	1,820	1,627	1,491	2,077	1,800	1,616	1,486	1,761	1,597	1,477	1,725	1,578	1,468	1,691	1,559	1,459
	8	1,994	1,689	1,498	1,366	1,956	1,672	1,490	1,363	1,639	1,474	1,356	1,608	1,458	1,349	1,578	1,443	1,342
	9	1,880	1,573	1,385	1,258	1,846	1,558	1,378	1,255	1,529	1,365	1,250	1,502	1,352	1,244	1,476	1,340	1,239
	10	1,776	1,469	1,285	1,163	1,745	1,456	1,280	1,161	1,431	1,269	1,157	1,407	1,258	1,153	1,385	1,248	1,149

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	63.4 fc	8.5 ft
6.5 ft	45.4 fc	10.1 ft
7.5 ft	34.1 fc	11.6 ft
8.0 ft	30.0 fc	12.4 ft
10.0 ft	19.2 fc	15.5 ft
12.0 ft	13.3 fc	18.6 ft
14.0 ft	9.8 fc	21.7 ft
16.0 ft	7.5 fc	24.8 ft
20.0 ft	4.8 fc	30.9 ft
24.0 ft	3.3 fc	37.1 ft
28.0 ft	2.4 fc	43.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	291,937	291,937	291,937
45.00°	123,416	123,416	123,416
55.00°	52,654	52,654	52,654
65.00°	6,114	6,114	6,114
75.00°	665	665	665
85.00°	2,019	2,019	2,019

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	20.4	21.6	20.7	21.9	22.2	20.4	21.6	20.7	21.9	22.2
	3H	20.2	21.3	20.6	21.6	22.0	20.2	21.3	20.6	21.6	22.0
	4H	20.1	21.1	20.6	21.5	21.9	20.1	21.1	20.6	21.5	21.9
	6H	20.1	20.9	20.5	21.3	21.7	20.1	20.9	20.5	21.3	21.7
	8H	20.0	20.8	20.4	21.2	21.7	20.0	20.8	20.4	21.2	21.7
	12H	20.0	20.8	20.4	21.1	21.6	20.0	20.8	20.4	21.1	21.6
4H	2H	20.2	21.1	20.6	21.5	21.9	20.2	21.1	20.6	21.5	21.9
	3H	20.0	20.8	20.4	21.2	21.6	20.0	20.8	20.4	21.2	21.6
	4H	19.9	20.6	20.4	21.0	21.5	19.9	20.6	20.4	21.0	21.5
	6H	19.8	20.4	20.3	20.9	21.3	19.8	20.4	20.3	20.9	21.3
	8H	19.8	20.3	20.2	20.8	21.2	19.8	20.3	20.2	20.8	21.2
	12H	19.7	20.2	20.2	20.7	21.2	19.7	20.2	20.2	20.7	21.2
8H	4H	19.8	20.3	20.2	20.8	21.2	19.8	20.3	20.2	20.8	21.2
	6H	19.6	20.1	20.2	20.6	21.1	19.6	20.1	20.2	20.6	21.1
	8H	19.6	20.0	20.1	20.5	21.0	19.6	20.0	20.1	20.5	21.0
	12H	19.5	19.9	20.0	20.4	21.0	19.5	19.9	20.0	20.4	21.0
12H	4H	19.7	20.2	20.2	20.7	21.2	19.7	20.2	20.2	20.7	21.2
	6H	19.6	20.0	20.1	20.5	21.0	19.6	20.0	20.1	20.5	21.0
	8H	19.5	19.9	20.0	20.4	21.0	19.5	19.9	20.0	20.4	21.0

Corrected UGR values based on total output lumens

SHR = 1.0