

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CF04XXUDPC 20LNDCL 20LNDNL 35KXX XXMW (IND/DIR Damp location)
Nom. 4" Diam. Gamma Indirect/Direct Cylinder

Test Number

SP-01091

Test Date

1/20/2020

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

Summary of Results

Power

Input Watts	25.8 W
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Lumen Output

Output Lumens	3031
Efficacy	117.47 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.32
Two luminaires, plane 90°	0.32
Four luminaires	0.33

Full Beam Angle

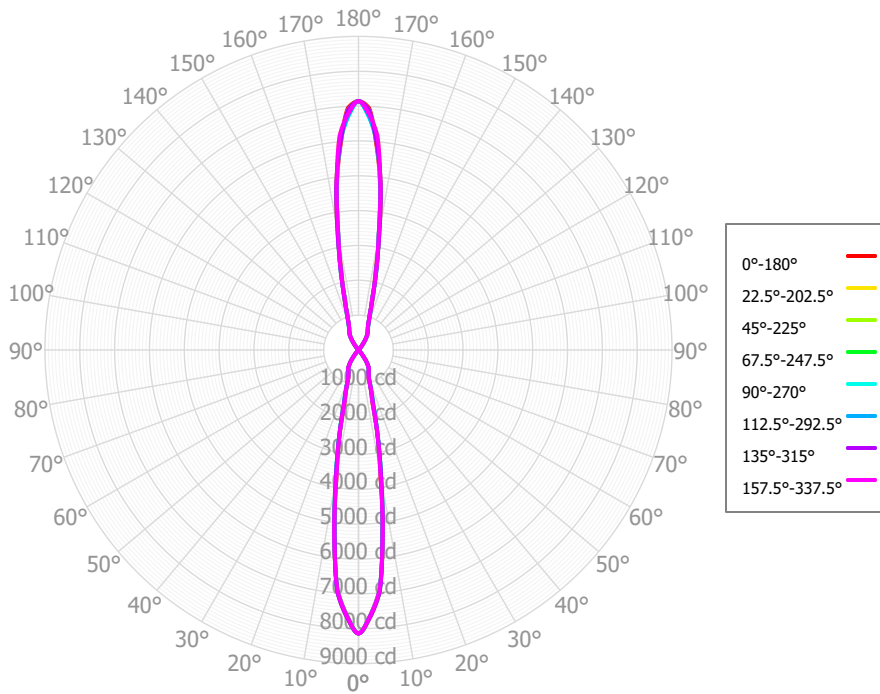
0° - 180°	342°
90° - 270°	343°

IES File Header Contents

Keyword	Value
TEST	SP-01091
TESTLAB	VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/20/2020
ISSUEDATE	12/16/2020
LUMCAT	CF04XXUDPC 20LNDCL 20LNDNL 35KXX XXMW (IND/DIR Damp location)
LUMINAIRE	Nom. 4" Diam. Gamma Indirect/Direct Cylinder
OTHER	Uplight: Narrow Optic, Flush Clear Glass lens
OTHER	Uplight: 19.6 Degree Beam Angle
OTHER	Downlight: Narrow Optic, Regressed Glass lens
OTHER	Downlight: 18.9 Degree Beam Angle
OTHER	Trim: Matte White
LAMP	N/A
LAMPCAT	N/A, 19mm LES Uplight
OTHER	N/A, 19mm LES Downlight
OTHER	Total Luminaire Watts is approximate
OTHER	CCT Output Multipliers: 27K x 0.97, 30K x 0.98, 40K x 1.04, 27HK x 0.89, 30HK x 0.83
OTHER	See Catalog cut sheet for different source lumen multipliers
OTHER	This report prepared by Spectrum Lighting
_CRI	80
CCTMULT	27K x 0.97, 30K x 0.98, 40K x 1.04

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 XXMW (IND/DIR Damp location)

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	573.61	18.93%	90.00° - 100.00°	1.34	0.04%
10.00° - 20.00°	490.35	16.18%	100.00° - 110.00°	1.83	0.06%
20.00° - 30.00°	320.42	10.57%	100.00° - 120.00°	4.84	0.16%
30.00° - 40.00°	210.87	6.96%	120.00° - 130.00°	6.58	0.22%
40.00° - 50.00°	18.46	0.61%	130.00° - 140.00°	15.88	0.52%
50.00° - 60.00°	1.22	0.04%	140.00° - 150.00°	168.25	5.55%
60.00° - 70.00°	1.36	0.04%	150.00° - 160.00°	293.08	9.67%
70.00° - 80.00°	1.45	0.05%	160.00° - 170.00°	460.00	15.18%
80.00° - 90.00°	1.24	0.04%	170.00° - 180.00°	511.95	16.89%
0.00° - 90.00°	1618.99	53.42%	0.00° - 180.00°	3080.91	101.66%

Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°
0.00°	8134.95	8134.95	8134.95	8134.95	8134.95
2.50°	7634.10	7644.73	7679.50	7646.49	7642.29
5.00°	6917.51	6926.41	6966.14	6954.87	6915.65
7.50°	5314.94	5324.48	5282.48	5289.52	5275.84
10.00°	3615.32	3610.11	3734.31	3723.07	3751.54
12.50°	2543.28	2539.55	2546.11	2572.47	2585.86
15.00°	1522.25	1521.80	1619.51	1618.67	1651.78
17.50°	1172.66	1170.75	1176.76	1198.01	1207.42
20.00°	856.26	849.91	873.14	882.50	889.82
22.50°	761.68	759.16	757.83	767.87	766.32
25.00°	678.49	678.40	681.34	684.63	681.52
27.50°	638.77	640.16	643.31	644.52	639.93
30.00°	580.66	583.89	575.67	574.99	566.10
32.50°	475.63	478.24	486.58	475.84	465.90
35.00°	356.96	360.46	360.89	351.48	339.65
37.50°	213.92	219.26	215.83	208.27	197.69
40.00°	104.38	109.20	116.65	109.41	101.76
42.50°	38.06	42.31	34.32	34.44	25.42
45.00°	4.26	6.71	11.51	9.08	5.49
47.50°	1.64	2.86	2.76	2.64	1.58
50.00°	0.74	1.34	1.77	1.35	0.94
52.50°	1.07	1.56	1.80	1.33	0.87
55.00°	1.25	1.56	1.46	1.43	0.94
57.50°	1.35	1.43	1.12	1.54	1.02
60.00°	1.55	1.16	1.27	1.57	1.22
62.50°	1.79	0.84	1.47	1.58	1.39
65.00°	1.56	0.89	1.96	1.36	1.16
67.50°	1.21	1.04	2.27	1.17	0.99
70.00°	1.11	1.19	1.97	1.09	1.05
72.50°	1.07	1.35	1.93	1.16	1.09
75.00°	1.19	1.59	2.18	1.45	1.08
77.50°	0.98	1.51	1.50	0.97	1.28
80.00°	0.64	1.30	1.29	1.02	1.05
82.50°	0.77	1.24	1.53	1.41	0.77
85.00°	1.18	1.41	1.31	1.27	0.99
87.50°	1.17	1.03	1.40	1.39	1.11
90.00°	0.79	0.74	0.88	0.00	0.00
92.50°	0.93	0.96	1.10	1.38	0.94
95.00°	1.04	1.26	1.80	0.76	1.25
97.50°	1.58	1.86	1.43	1.47	1.68
100.00°	1.51	1.64	1.36	1.39	1.54
102.50°	1.47	1.56	1.58	2.31	1.86
105.00°	1.25	1.87	1.62	1.67	1.71
107.50°	1.56	2.36	1.67	1.41	1.65
110.00°	1.67	2.97	1.67	1.49	1.72
112.50°	1.49	3.15	1.52	1.73	2.02

CF04XXUDPC 20LNDCL 20LNDNL 35KXX
 XXMW (IND/DIR Damp location)

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	3320	3320	3320	3320	3072	3072	3072	3072	2611	2611	2611	2189	2189	2189	1801	1801	1619
	1	3123	3028	2942	2865	2897	2819	2748	2683	2428	2380	2336	2068	2038	2011	1737	1720	1562
	2	2941	2780	2646	2534	2736	2601	2489	2394	2267	2189	2122	1958	1908	1864	1672	1643	1504
	3	2774	2567	2407	2279	2587	2413	2277	2167	2125	2029	1950	1858	1794	1740	1610	1571	1449
	4	2621	2383	2209	2075	2451	2250	2100	1985	2000	1892	1807	1767	1693	1634	1550	1504	1397
	5	2482	2223	2043	1909	2327	2107	1951	1834	1888	1774	1687	1685	1605	1542	1494	1443	1348
	6	2355	2084	1902	1771	2214	1982	1824	1708	1790	1672	1584	1610	1526	1462	1442	1386	1302
	7	2240	1962	1781	1655	2111	1872	1714	1601	1702	1583	1496	1542	1456	1392	1392	1334	1259
	8	2136	1854	1677	1555	2018	1774	1618	1510	1623	1504	1419	1480	1393	1330	1346	1286	1219
	9	2041	1759	1586	1470	1933	1688	1535	1430	1552	1434	1352	1424	1337	1275	1303	1243	1182
	10	1955	1675	1507	1395	1855	1611	1462	1361	1488	1373	1293	1372	1286	1225	1263	1202	1147

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	268.9 fc	0.0 ft
6.5 ft	192.5 fc	0.0 ft
7.5 ft	144.6 fc	0.0 ft
8.0 ft	127.1 fc	0.0 ft
10.0 ft	81.3 fc	0.0 ft
12.0 ft	56.5 fc	0.0 ft
14.0 ft	41.5 fc	0.0 ft
16.0 ft	31.8 fc	0.0 ft
20.0 ft	20.3 fc	0.0 ft
24.0 ft	14.1 fc	0.0 ft
28.0 ft	10.4 fc	0.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1023781	1023781	1023781
45.00°	758	2048	977
55.00°	273	319	207
65.00°	463	583	344
75.00°	580	1061	527
85.00°	1700	1884	1434

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	-13.3	-13.0	-12.3	-11.1	-13.7	-13.0	-12.7	-12.1	-10.8
	3H	-11.3	-10.7	-10.3	-9.8	-8.5	-11.4	-10.8	-10.4	-9.9	-8.6
	4H	-9.3	-8.8	-8.3	-7.8	-6.5	-9.6	-9.1	-8.6	-8.1	-6.8
	6H	-7.9	-7.4	-6.9	-6.4	-5.2	-7.7	-7.2	-6.7	-6.3	-5.0
	8H	-7.3	-6.8	-6.3	-5.8	-4.5	-7.0	-6.5	-6.0	-5.5	-4.2
	12H	-5.9	-5.5	-4.9	-4.5	-3.2	-6.0	-5.5	-4.9	-4.5	-3.2
4H	2H	-12.1	-11.5	-11.1	-10.6	-9.3	-11.9	-11.4	-10.9	-10.4	-9.1
	3H	-9.2	-8.8	-8.2	-7.8	-6.5	-9.4	-9.0	-8.4	-8.0	-6.7
	4H	-7.1	-6.7	-6.1	-5.7	-4.4	-7.5	-7.1	-6.5	-6.1	-4.8
	6H	-5.6	-5.3	-4.6	-4.3	-2.9	-5.9	-5.6	-4.9	-4.6	-3.2
	8H	-4.9	-4.6	-3.9	-3.6	-2.3	-5.0	-4.7	-4.0	-3.7	-2.4
	12H	-3.6	-3.3	-2.6	-2.3	-1.0	-3.9	-3.6	-2.9	-2.6	-1.2
8H	4H	-6.1	-5.7	-5.0	-4.7	-3.4	-6.4	-6.1	-5.3	-5.0	-3.7
	6H	-4.3	-4.0	-3.2	-2.9	-1.6	-4.6	-4.4	-3.6	-3.3	-2.0
	8H	-3.3	-3.1	-2.2	-2.0	-0.7	-3.4	-3.2	-2.3	-2.1	-0.8
	12H	-1.7	-1.5	-0.7	-0.5	0.9	-2.0	-1.8	-1.0	-0.8	0.6
12H	4H	-5.9	-5.7	-4.9	-4.6	-3.3	-6.2	-5.9	-5.1	-4.9	-3.5
	6H	-3.9	-3.7	-2.9	-2.6	-1.3	-4.2	-4.0	-3.1	-2.9	-1.6
	8H	-2.7	-2.5	-1.7	-1.5	-0.1	-2.8	-2.6	-1.7	-1.6	-0.2

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0