

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CW04XXUDPC 20LXWCL 20LXWCL 35KXX XXMW (IND/DIR Wet location)
Nom. 4" Diam. Gamma Indirect/Direct Cylinder

Test Number

SP-01089

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	2453
Efficacy	95.07 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.95
Two luminaires, plane 90°	0.94
Four luminaires	0.82

Full Beam Angle

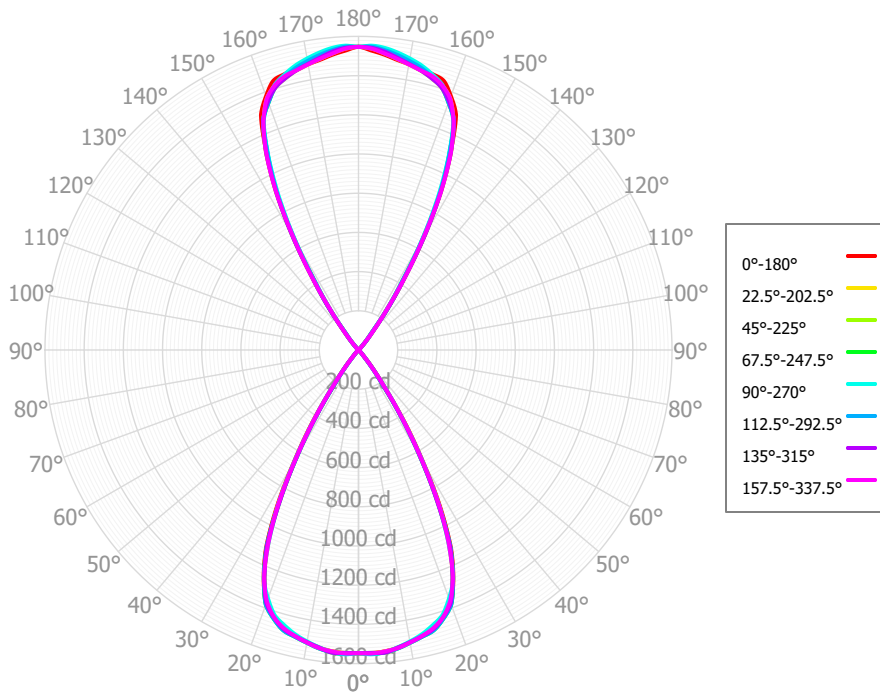
0° - 180°	303°
90° - 270°	303°

IES File Header Contents

Keyword	Value
TEST	SP-01089
TESTLAB	VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/20/2020
ISSUEDATE	12/16/2020
LUMCAT	CW04XXUDPC 20LXWCL 20LXWCL 35KXX XXMW (IND/DIR Wet location)
LUMINAIRE	Nom. 4" Diam. Gamma Indirect/Direct Cylinder
OTHER	Uplight: Xtra Wide Optic, Flush Clear Glass lens
OTHER	Uplight: 57.2 Degree Beam Angle
OTHER	Downlight: Xtra Wide Optic, Regressed Glass lens
OTHER	Downlight: 57.2 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 0.78, 30HK x 0.82
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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Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	153.84	6.27%	90.00° - 100.00°	1.36	0.06%
10.00° - 20.00°	411.67	16.78%	100.00° - 110.00°	1.49	0.06%
20.00° - 30.00°	479.30	19.54%	100.00° - 120.00°	3.38	0.14%
30.00° - 40.00°	163.79	6.68%	120.00° - 130.00°	2.36	0.10%
40.00° - 50.00°	10.64	0.43%	130.00° - 140.00°	12.29	0.50%
50.00° - 60.00°	2.15	0.09%	140.00° - 150.00°	174.62	7.12%
60.00° - 70.00°	1.79	0.07%	150.00° - 160.00°	485.20	19.78%
70.00° - 80.00°	1.77	0.07%	160.00° - 170.00°	405.57	16.53%
80.00° - 90.00°	1.42	0.06%	170.00° - 180.00°	151.81	6.19%
0.00° - 90.00°	1226.38	50.00%	0.00° - 180.00°	2462.98	100.41%

Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°
0.00°	1547.26	1547.26	1547.26	1547.26	1547.26
2.50°	1548.15	1550.07	1547.24	1551.59	1554.57
5.00°	1543.84	1543.91	1550.38	1548.56	1547.24
7.50°	1532.86	1534.66	1532.26	1536.38	1530.94
10.00°	1514.82	1515.89	1514.15	1517.26	1510.54
12.50°	1494.85	1495.31	1496.05	1499.09	1487.31
15.00°	1473.22	1470.43	1474.87	1481.51	1456.07
17.50°	1432.72	1431.33	1432.18	1438.57	1420.39
20.00°	1378.84	1365.70	1375.54	1383.21	1350.21
22.50°	1265.36	1259.18	1254.03	1259.46	1264.43
25.00°	1117.33	1089.54	1106.17	1108.51	1086.90
27.50°	901.78	885.24	869.25	880.05	877.12
30.00°	655.10	637.62	635.44	628.02	645.03
32.50°	438.19	420.62	409.91	412.77	407.05
35.00°	231.98	234.75	223.26	205.70	246.12
37.50°	127.00	114.99	117.78	113.56	99.58
40.00°	50.56	51.54	43.60	38.67	52.06
42.50°	24.01	19.78	21.53	19.94	17.16
45.00°	7.57	9.93	7.34	6.51	9.55
47.50°	4.44	5.18	4.07	4.49	3.73
50.00°	3.07	3.28	2.32	2.91	2.96
52.50°	3.01	2.38	2.29	2.85	2.27
55.00°	3.06	1.95	2.22	2.78	2.19
57.50°	2.56	1.99	2.11	2.49	2.12
60.00°	2.07	2.19	1.87	2.19	2.03
62.50°	2.13	2.00	1.54	1.79	1.94
65.00°	2.17	1.70	1.57	1.44	1.87
67.50°	1.88	1.98	1.81	1.39	1.74
70.00°	1.70	2.36	1.85	1.46	1.41
72.50°	2.07	1.82	1.82	1.79	1.22
75.00°	2.00	1.40	1.83	2.10	1.17
77.50°	1.41	1.28	1.65	2.22	1.30
80.00°	1.37	1.36	1.22	1.57	1.28
82.50°	1.30	1.41	1.65	1.51	1.36
85.00°	1.18	1.32	1.40	1.38	1.54
87.50°	1.17	1.12	1.15	1.34	1.21
90.00°	1.02	1.33	1.17	1.00	0.00
92.50°	1.09	1.00	1.63	0.87	1.21
95.00°	1.25	1.54	1.24	1.27	1.54
97.50°	1.20	1.47	1.09	1.41	1.36
100.00°	1.05	1.15	1.55	1.40	1.28
102.50°	1.57	1.16	1.69	1.27	1.30
105.00°	1.32	1.40	1.48	1.08	1.17
107.50°	1.56	1.71	1.34	1.37	1.22
110.00°	1.82	2.00	1.51	1.63	1.41
112.50°	1.88	1.87	1.98	1.70	1.74

CW04XXUDPC 20LXWCL 20LXWCL 35KXX
 XXMW (IND/DIR Wet 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	2638	2638	2638	2638	2433	2433	2433	2433	2050	2050	2050	1699	1699	1699	1378	1378	1226
	1	2468	2387	2314	2249	2281	2213	2152	2097	1888	1847	1809	1589	1563	1538	1313	1298	1167
	2	2310	2172	2058	1962	2139	2023	1927	1845	1744	1677	1619	1486	1442	1404	1248	1222	1107
	3	2164	1986	1848	1738	2007	1858	1740	1645	1616	1533	1464	1393	1336	1289	1185	1150	1050
	4	2029	1823	1673	1558	1886	1712	1582	1482	1502	1408	1334	1307	1242	1189	1126	1084	996
	5	1905	1681	1525	1409	1775	1584	1448	1347	1400	1300	1223	1229	1158	1103	1069	1022	945
	6	1792	1556	1398	1284	1673	1471	1332	1232	1309	1205	1128	1157	1083	1026	1016	965	897
	7	1688	1446	1288	1178	1579	1370	1232	1133	1226	1121	1045	1092	1015	958	966	913	852
	8	1594	1348	1193	1086	1494	1280	1143	1048	1152	1047	972	1032	954	897	919	864	810
	9	1507	1260	1109	1007	1415	1200	1066	974	1085	981	908	977	899	843	875	819	771
	10	1428	1182	1035	937	1344	1128	997	908	1025	922	851	927	849	794	834	778	735

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	51.1 fc	0.0 ft
6.5 ft	36.6 fc	0.0 ft
7.5 ft	27.5 fc	0.0 ft
8.0 ft	24.2 fc	0.0 ft
10.0 ft	15.5 fc	0.0 ft
12.0 ft	10.7 fc	0.0 ft
14.0 ft	7.9 fc	0.0 ft
16.0 ft	6.0 fc	0.0 ft
20.0 ft	3.9 fc	0.0 ft
24.0 ft	2.7 fc	0.0 ft
28.0 ft	2.0 fc	0.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	194722	194722	194722
45.00°	1347	1307	1699
55.00°	671	486	481
65.00°	648	466	557
75.00°	974	890	567
85.00°	1707	2023	2216

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	-10.5	-9.9	-9.5	-8.9	-7.6	-9.5	-8.9	-8.5	-7.9	-6.6
	3H	-7.2	-6.7	-6.2	-5.7	-4.4	-7.8	-7.2	-6.8	-6.2	-4.9
	4H	-5.6	-5.1	-4.6	-4.1	-2.8	-6.5	-6.0	-5.5	-5.0	-3.7
	6H	-4.5	-4.0	-3.4	-3.0	-1.7	-4.9	-4.4	-3.9	-3.4	-2.1
	8H	-3.8	-3.3	-2.7	-2.3	-1.0	-4.1	-3.6	-3.0	-2.6	-1.2
	12H	-2.9	-2.5	-1.9	-1.5	-0.1	-2.8	-2.4	-1.8	-1.4	-0.1
4H	2H	-10.0	-9.5	-9.0	-8.5	-7.2	-9.2	-8.7	-8.2	-7.7	-6.4
	3H	-6.2	-5.7	-5.1	-4.7	-3.4	-6.8	-6.4	-5.8	-5.4	-4.0
	4H	-4.6	-4.2	-3.6	-3.2	-1.8	-4.8	-4.4	-3.8	-3.4	-2.1
	6H	-3.3	-2.9	-2.2	-1.9	-0.5	-3.0	-2.6	-1.9	-1.6	-0.2
	8H	-2.4	-2.1	-1.3	-1.0	0.3	-2.1	-1.8	-1.0	-0.7	0.6
	12H	-1.4	-1.1	-0.3	-0.1	1.3	-0.9	-0.6	0.2	0.4	1.8
8H	4H	-4.0	-3.7	-2.9	-2.6	-1.3	-4.1	-3.8	-3.0	-2.7	-1.4
	6H	-2.4	-2.1	-1.3	-1.1	0.3	-2.0	-1.8	-0.9	-0.7	0.7
	8H	-1.3	-1.1	-0.2	0.0	1.4	-0.9	-0.7	0.2	0.4	1.8
	12H	-0.1	0.1	1.0	1.2	2.6	0.5	0.7	1.6	1.7	3.2
12H	4H	-3.9	-3.6	-2.8	-2.5	-1.2	-4.0	-3.7	-2.9	-2.7	-1.3
	6H	-2.1	-1.9	-1.0	-0.8	0.6	-1.8	-1.6	-0.7	-0.5	0.9
	8H	-0.8	-0.6	0.2	0.4	1.8	-0.5	-0.3	0.6	0.7	2.2

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0