

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-01087

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	2249
Efficacy	87.17 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.35
Two luminaires, plane 90°	0.35
Four luminaires	0.37

Full Beam Angle

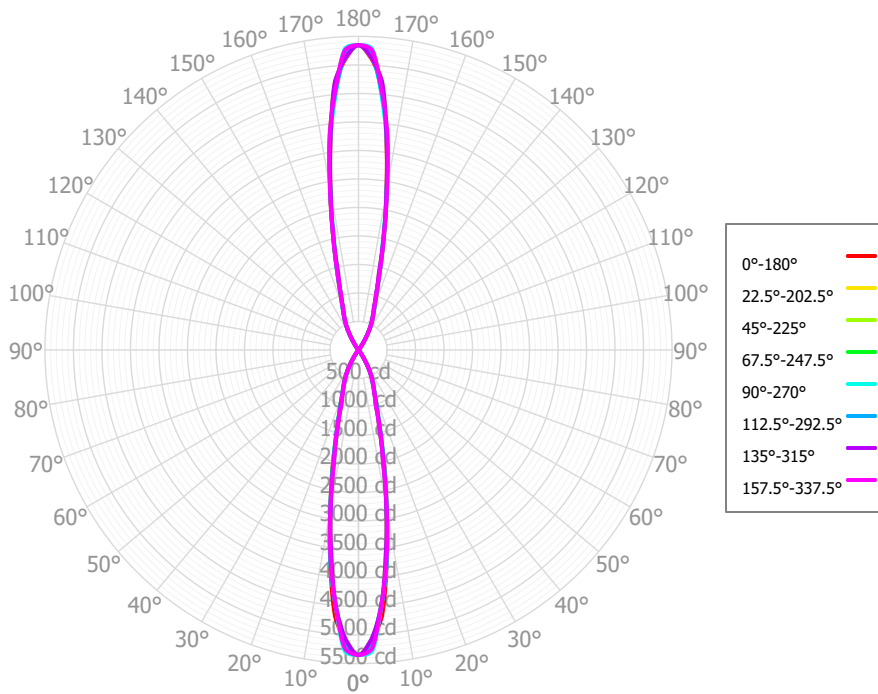
0° - 180°	339°
90° - 270°	339°

IES File Header Contents

Keyword	Value
TEST	SP-01087
TESTLAB	VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/20/2020
ISSUEDATE	12/16/2020
LUMCAT	CW04XXUDPC 20LNDCL 20LNDCL 35KXX XXMW (IND/DIR Wet location)
LUMINAIRE	Nom. 4" Diam. Gamma Indirect/Direct Cylinder
OTHER	Uplight: Narrow Optic, Flush Clear Glass lens
OTHER	Uplight: 21.2 Degree Beam Angle
OTHER	Downlight: Narrow Optic, Regressed Glass lens
OTHER	Downlight: 21.2 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°	397.38	17.67%	90.00° - 100.00°	1.56	0.07%
10.00° - 20.00°	415.13	18.46%	100.00° - 110.00°	1.57	0.07%
20.00° - 30.00°	250.95	11.16%	100.00° - 120.00°	4.02	0.18%
30.00° - 40.00°	64.90	2.89%	120.00° - 130.00°	3.89	0.17%
40.00° - 50.00°	4.16	0.18%	130.00° - 140.00°	4.00	0.18%
50.00° - 60.00°	3.98	0.18%	140.00° - 150.00°	63.78	2.84%
60.00° - 70.00°	1.98	0.09%	150.00° - 160.00°	248.13	11.03%
70.00° - 80.00°	1.56	0.07%	160.00° - 170.00°	414.92	18.45%
80.00° - 90.00°	1.44	0.06%	170.00° - 180.00°	402.29	17.89%
0.00° - 90.00°	1141.49	50.76%	0.00° - 180.00°	2284.08	101.56%

Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°
0.00°	5348.57	5348.57	5348.57	5348.57	5348.57
2.50°	5116.85	5257.31	5089.19	5142.40	5300.72
5.00°	4697.97	4522.81	4545.45	4524.43	4537.61
7.50°	3779.62	3742.11	3651.55	3774.15	3766.67
10.00°	2828.85	2853.22	2805.85	2840.01	2857.52
12.50°	2106.04	1963.81	2008.74	2064.61	1975.33
15.00°	1391.60	1470.06	1429.71	1483.32	1478.67
17.50°	1101.04	988.99	1044.62	1073.98	1012.99
20.00°	817.48	828.99	806.10	847.40	836.61
22.50°	700.50	672.39	680.80	679.61	667.85
25.00°	582.12	558.97	554.82	566.94	549.31
27.50°	446.66	443.04	428.39	437.82	427.59
30.00°	312.27	306.36	298.34	295.30	289.93
32.50°	186.91	177.12	166.16	177.52	163.58
35.00°	74.16	93.85	85.07	77.46	83.02
37.50°	37.91	23.35	29.65	28.29	19.19
40.00°	7.77	13.40	9.59	10.65	10.46
42.50°	6.16	5.37	4.90	4.56	4.05
45.00°	5.05	4.74	4.00	4.64	4.03
47.50°	5.87	4.27	4.49	4.71	4.01
50.00°	6.27	4.29	4.60	4.78	4.00
52.50°	5.34	4.54	4.58	4.84	4.07
55.00°	4.51	5.39	4.42	4.88	4.30
57.50°	3.91	5.39	4.22	3.96	4.22
60.00°	3.31	3.47	3.25	2.72	3.60
62.50°	2.71	2.14	2.13	2.12	2.90
65.00°	2.33	1.97	1.49	1.68	2.11
67.50°	2.38	1.70	0.93	1.52	1.76
70.00°	2.16	1.28	1.28	1.40	1.89
72.50°	1.57	1.33	1.60	1.52	1.69
75.00°	1.26	1.73	1.62	1.55	1.37
77.50°	1.14	1.45	1.59	1.46	1.12
80.00°	1.44	1.37	1.50	1.14	1.43
82.50°	1.66	1.50	1.32	1.50	1.68
85.00°	1.41	1.56	1.48	1.35	1.51
87.50°	1.04	1.54	1.31	1.07	1.25
90.00°	1.30	1.32	1.15	0.00	0.00
92.50°	1.62	1.98	1.47	1.50	1.25
95.00°	1.37	1.19	1.42	1.78	1.51
97.50°	1.51	1.26	1.63	1.35	1.68
100.00°	1.66	2.04	1.48	1.51	1.43
102.50°	1.62	1.50	1.61	1.22	1.12
105.00°	1.37	1.45	1.75	1.15	1.37
107.50°	1.33	1.53	1.66	1.22	1.69
110.00°	1.45	1.67	1.69	1.39	1.89
112.50°	1.76	2.20	1.83	1.75	1.76

CW04XXUDPC 20LNDCL 20LNDCL 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	2447	2447	2447	2447	2257	2257	2257	2257	1903	1903	1903	1579	1579	1579	1281	1281	1141
	1	2300	2229	2166	2108	2127	2069	2016	1968	1768	1733	1701	1492	1470	1450	1237	1225	1104
	2	2165	2046	1947	1863	2008	1908	1825	1755	1651	1594	1545	1413	1377	1346	1194	1173	1067
	3	2042	1889	1770	1676	1899	1771	1670	1589	1549	1478	1421	1343	1297	1258	1152	1125	1032
	4	1930	1754	1625	1527	1800	1652	1541	1456	1459	1380	1318	1279	1227	1184	1112	1080	999
	5	1828	1637	1504	1405	1709	1548	1433	1347	1379	1296	1232	1222	1165	1120	1075	1039	967
	6	1735	1535	1401	1304	1627	1457	1340	1256	1308	1223	1159	1170	1110	1065	1040	1002	937
	7	1651	1446	1313	1220	1553	1377	1261	1178	1245	1159	1096	1122	1061	1016	1006	967	909
	8	1575	1368	1237	1148	1485	1306	1192	1112	1189	1103	1042	1079	1017	972	975	934	883
	9	1506	1298	1171	1085	1423	1243	1131	1055	1138	1053	994	1039	978	933	946	904	858
	10	1443	1237	1113	1031	1366	1187	1078	1004	1092	1009	951	1003	942	898	918	877	835

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	176.8 fc	0.0 ft
6.5 ft	126.6 fc	0.0 ft
7.5 ft	95.1 fc	0.0 ft
8.0 ft	83.6 fc	0.0 ft
10.0 ft	53.5 fc	0.0 ft
12.0 ft	37.1 fc	0.0 ft
14.0 ft	27.3 fc	0.0 ft
16.0 ft	20.9 fc	0.0 ft
20.0 ft	13.4 fc	0.0 ft
24.0 ft	9.3 fc	0.0 ft
28.0 ft	6.8 fc	0.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	673115	673115	673115
45.00°	899	712	717
55.00°	989	970	944
65.00°	694	443	627
75.00°	614	786	664
85.00°	2029	2140	2182

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	-4.2	-3.5	-3.1	-2.5	-1.2	-5.8	-5.2	-4.8	-4.2	-2.9
	3H	-3.5	-2.9	-2.5	-2.0	-0.6	-5.0	-4.5	-4.0	-3.5	-2.2
	4H	-3.1	-2.6	-2.1	-1.6	-0.3	-4.4	-3.9	-3.4	-2.9	-1.5
	6H	-2.6	-2.1	-1.5	-1.1	0.2	-3.6	-3.1	-2.6	-2.1	-0.8
	8H	-1.9	-1.5	-0.9	-0.5	0.9	-2.8	-2.3	-1.7	-1.3	0.0
	12H	-1.2	-0.7	-0.1	0.3	1.6	-1.7	-1.3	-0.7	-0.3	1.1
4H	2H	-4.3	-3.8	-3.3	-2.8	-1.5	-5.9	-5.4	-4.9	-4.4	-3.1
	3H	-3.5	-3.1	-2.5	-2.0	-0.7	-4.8	-4.4	-3.8	-3.3	-2.0
	4H	-2.8	-2.4	-1.7	-1.4	0.0	-3.8	-3.4	-2.8	-2.4	-1.1
	6H	-1.9	-1.6	-0.8	-0.5	0.8	-2.7	-2.4	-1.7	-1.4	0.0
	8H	-1.0	-0.7	0.0	0.3	1.7	-1.7	-1.3	-0.6	-0.3	1.1
	12H	0.0	0.3	1.1	1.3	2.7	-0.4	-0.1	0.6	0.9	2.3
8H	4H	-2.5	-2.2	-1.4	-1.1	0.2	-3.4	-3.1	-2.3	-2.0	-0.7
	6H	-1.3	-1.0	-0.2	0.1	1.4	-2.0	-1.7	-0.9	-0.7	0.7
	8H	-0.2	0.0	0.9	1.1	2.5	-0.7	-0.5	0.4	0.6	2.0
	12H	1.2	1.4	2.2	2.4	3.8	0.8	1.0	1.8	2.0	3.4
12H	4H	-2.5	-2.2	-1.4	-1.1	0.2	-3.3	-3.0	-2.2	-2.0	-0.6
	6H	-1.1	-0.9	0.0	0.2	1.6	-1.8	-1.5	-0.7	-0.5	0.9
	8H	0.1	0.3	1.2	1.4	2.8	-0.4	-0.2	0.7	0.9	2.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0