

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CW04XXPC 10L 35K WD XX CL XX

Nom 4" diam Gamma Cylinder (wet location), WD optic, clear glass lens

Test Number

SP-01072_M-10L

Test Date

1/30/2020

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

Summary of Results

Power

Input Watts	6.5 W
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Lumen Output

Output Lumens	602
Efficacy	92.57 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.77
Two luminaires, plane 90°	0.79
Four luminaires	0.74

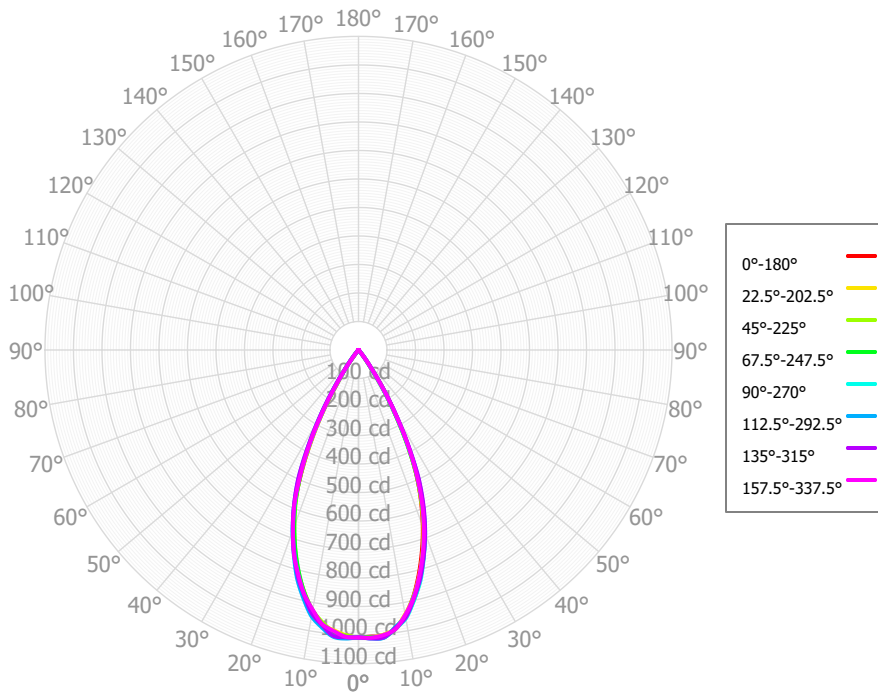
Full Beam Angle

0° - 180°	49°
90° - 270°	49°

IES File Header Contents

Keyword	Value
TEST	SP-01072_M-10L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/30/2020
ISSUEDATE	3/24/2020
LUMCAT	CW04XXPC 10L 35K WD XX CL XX
LUMINAIRE	Nom 4" diam Gamma Cylinder (wet location), WD optic, clear glass lens
OTHER	Beam Angle: 47.6 deg
OTHER	Wide optic
LAMPCAT	N/A
LAMP	N/A
OTHER	CCT Output Multipliers: 27K x 0.97, 30K x 0.98, 40K x 1.04
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting, scaled from 20L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	94.98	15.79%	90.00° - 100.00°	0.04	0.01%
10.00° - 20.00°	226.73	37.68%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	213.82	35.54%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	59.64	9.91%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	2.94	0.49%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	0.97	0.16%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	0.92	0.15%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	0.94	0.16%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.72	0.12%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	601.66	99.99%	0.00° - 180.00°	601.70	100.00%

Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°	112.50°	135.00°	157.50°	180.00°	202.50°	225.00°	247.50°	270.00°	292.50°	315.00°	337.50°	360.00°
0.00°	1008.68	1008.68	1008.68	1008.68	1008.68	1008.68	1008.68	1008.68	1008.68	1008.68	1008.68	1008.68	1008.68	1008.68	1008.68	1008.68	1008.68
2.50°	1006.76	1009.44	1008.71	1009.04	1012.40	1013.20	1008.97	1007.51	1005.77	1001.90	1002.36	1007.13	1009.66	1012.77	1012.95	1010.35	1006.76
5.00°	1007.59	1002.79	1012.90	1007.56	1013.12	1010.06	1006.97	990.33	991.80	987.44	995.24	993.21	1007.61	1013.48	1012.27	1004.06	1007.59
7.50°	986.65	986.01	983.62	988.20	986.42	982.09	973.77	970.84	968.03	971.01	964.38	971.23	975.35	982.09	984.93	988.74	986.65
10.00°	945.41	942.07	951.88	950.58	956.55	948.80	939.26	925.75	928.74	927.94	928.14	928.36	940.29	949.26	953.13	944.04	945.41
12.50°	887.25	890.41	888.86	898.27	899.24	892.50	881.60	878.31	880.46	881.22	872.77	874.54	880.07	891.14	894.70	892.23	887.25
15.00°	816.32	822.65	824.84	833.82	838.97	831.18	822.30	816.07	818.71	816.18	812.22	808.10	818.33	832.08	833.34	822.49	816.32
17.50°	739.80	749.54	747.88	759.20	761.81	754.01	749.08	752.96	750.60	749.80	737.36	736.48	748.19	758.73	759.96	749.72	739.80
20.00°	659.91	667.32	669.55	677.60	681.70	674.90	674.34	672.00	669.87	669.01	659.40	658.85	674.58	683.36	683.53	670.85	659.91
22.50°	572.50	577.51	577.24	582.00	589.90	591.14	591.53	589.16	584.52	586.91	574.82	579.26	586.93	592.37	597.88	583.32	572.50
25.00°	481.48	477.35	481.36	478.72	491.40	497.11	501.94	480.22	475.38	473.68	480.70	477.88	491.14	496.41	501.68	482.01	481.48
27.50°	372.51	370.16	362.63	365.35	373.27	383.04	385.87	370.79	359.72	360.55	370.38	371.30	371.06	374.32	380.17	374.62	372.51
30.00°	256.61	255.23	247.76	247.62	259.51	271.87	273.04	257.67	249.83	248.48	262.29	261.49	257.39	257.16	265.05	259.44	256.61
32.50°	161.35	158.08	149.58	152.69	155.91	165.22	169.55	152.24	141.14	142.93	157.31	151.15	158.41	158.28	161.94	160.62	161.35
35.00°	72.12	77.29	66.98	65.59	74.73	85.45	84.79	83.78	79.20	78.85	80.77	87.54	80.11	75.65	82.39	79.20	72.12
37.50°	35.71	31.79	33.54	30.87	34.63	39.32	41.79	27.30	23.46	24.24	36.47	28.62	40.33	38.04	38.24	31.60	35.71
40.00°	10.38	12.50	8.61	9.50	9.00	12.46	12.23	13.86	11.91	12.44	12.08	16.08	13.71	10.77	11.22	13.14	10.38
42.50°	4.94	4.19	4.90	4.39	4.59	5.70	6.32	3.75	3.39	3.21	5.96	5.66	6.66	6.01	5.54	4.48	4.94
45.00°	2.42	2.44	2.26	2.16	1.94	2.16	2.52	2.62	2.48	2.35	2.89	3.89	2.46	2.72	2.41	2.64	2.42
47.50°	1.68	1.44	1.69	1.42	1.44	1.34	1.79	1.75	1.73	1.70	2.13	2.21	1.67	2.00	1.85	1.59	1.68
50.00°	1.08	0.80	1.29	0.87	1.08	1.01	1.30	1.40	1.37	1.57	1.69	1.80	1.32	1.50	1.63	0.99	1.08
52.50°	0.98	0.74	1.14	0.88	0.89	1.02	1.10	1.15	1.03	1.45	1.43	1.42	1.41	1.32	1.69	0.86	0.98
55.00°	0.88	0.90	1.02	0.92	0.93	0.98	1.03	1.04	0.93	1.34	1.34	1.20	1.32	1.19	1.46	0.95	0.88
57.50°	0.82	0.88	0.93	0.90	1.15	0.91	1.09	0.96	0.85	1.16	1.32	1.04	1.06	1.12	1.05	0.80	0.82
60.00°	0.78	0.79	0.92	0.87	1.17	0.86	1.13	0.92	0.91	0.90	1.12	1.14	0.98	1.12	0.83	0.56	0.78
62.50°	0.96	0.75	0.99	0.79	1.07	0.80	1.17	0.91	0.97	0.76	0.86	1.21	1.02	1.19	0.73	0.63	0.96
65.00°	1.10	0.72	0.93	0.72	0.98	0.90	1.14	0.93	1.01	0.76	0.90	1.20	0.96	1.15	0.75	0.79	1.10
67.50°	0.86	0.75	0.75	0.73	0.91	1.06	1.08	1.01	1.02	0.79	1.02	1.14	0.86	1.02	0.83	0.85	0.86
70.00°	0.72	0.79	0.77	0.77	0.85	0.92	0.98	1.12	0.95	0.83	1.06	0.96	0.82	1.12	1.11	0.91	0.72
72.50°	0.84	0.93	0.90	0.86	0.79	0.76	0.89	0.97	0.93	0.75	1.05	0.77	0.82	1.31	1.42	1.18	0.84
75.00°	0.83	0.97	0.89	0.95	0.76	0.72	1.08	0.82	0.93	0.66	0.90	0.59	0.94	1.19	1.21	1.25	0.83
77.50°	0.68	0.79	0.93	1.00	0.71	0.78	0.96	0.75	0.85	0.60	1.08	0.58	0.88	1.05	0.98	0.86	0.68
80.00°	0.65	0.81	1.06	0.67	0.66	0.86	0.77	0.66	0.61	0.59	1.07	0.68	0.81	0.89	0.77	0.63	0.65
82.50°	0.72	0.77	0.96	0.57	0.70	0.83	0.80	0.56	0.63	0.65	0.88	0.81	0.86	0.75	0.81	0.63	0.72
85.00°	0.83	0.69	0.88	0.79	0.66	0.82	0.82	0.60	0.78	0.54	0.80	0.78	0.64	0.75	0.66	0.75	0.83
87.50°	0.70	0.65	0.66	0.75	0.48	0.67	0.86	0.70	0.60	0.42	0.67	0.58	0.60	0.50	0.51	0.67	0.70
90.00°	0.55	0.67	0.57	0.49	0.59	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.55
92.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	716	716	716	716	700	700	700	700	669	669	669	640	640	640	614	614	602
	1	687	672	658	646	672	659	647	636	635	625	617	613	605	598	592	586	575
	2	658	632	611	593	645	622	603	586	603	587	574	585	573	562	569	559	548
	3	631	597	571	550	619	589	565	546	574	554	537	559	543	529	546	533	523
	4	605	565	536	514	595	559	532	511	546	523	505	535	515	500	524	508	498
	5	580	536	506	484	571	531	503	481	521	496	477	511	490	473	502	484	475
	6	556	510	479	456	548	505	476	455	497	471	452	489	466	449	481	462	454
	7	534	485	454	432	526	482	452	431	474	448	429	468	444	427	461	441	433
	8	513	463	432	410	506	460	430	409	454	427	408	448	424	406	442	421	414
	9	493	442	411	390	487	439	410	390	434	407	389	429	405	387	425	402	396
	10	474	423	392	372	468	420	391	372	416	389	371	412	387	370	408	385	380

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	33.3 fc	5.0 ft
6.5 ft	23.9 fc	5.9 ft
7.5 ft	17.9 fc	6.8 ft
8.0 ft	15.8 fc	7.3 ft
10.0 ft	10.1 fc	9.1 ft
12.0 ft	7.0 fc	10.9 ft
14.0 ft	5.1 fc	12.7 ft
16.0 ft	3.9 fc	14.6 ft
20.0 ft	2.5 fc	18.2 ft
24.0 ft	1.8 fc	21.8 ft
28.0 ft	1.3 fc	25.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	126943	126943	126943
45.00°	431	402	346
55.00°	194	223	203
65.00°	326	276	293
75.00°	403	435	371
85.00°	1195	1277	953

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	-10.1	-9.2	-9.7	-8.9	-8.5	-8.7	-7.8	-8.3	-7.5	-7.2
	3H	-6.6	-5.8	-6.2	-5.5	-5.1	-5.4	-4.7	-5.1	-4.3	-3.9
	4H	-4.3	-3.6	-3.9	-3.2	-2.9	-4.1	-3.4	-3.7	-3.0	-2.7
	6H	-2.9	-2.2	-2.5	-1.8	-1.4	-2.5	-1.9	-2.1	-1.5	-1.1
	8H	-2.0	-1.3	-1.5	-1.0	-0.5	-1.5	-0.9	-1.1	-0.5	-0.1
	12H	-0.6	0.0	-0.2	0.4	0.8	-0.5	0.1	-0.1	0.5	0.9
4H	2H	-9.0	-8.3	-8.6	-7.9	-7.5	-7.6	-6.9	-7.2	-6.5	-6.2
	3H	-5.0	-4.4	-4.6	-4.0	-3.6	-4.3	-3.7	-3.8	-3.3	-2.9
	4H	-2.5	-2.0	-2.0	-1.5	-1.1	-3.0	-2.4	-2.5	-2.0	-1.6
	6H	-1.0	-0.6	-0.5	-0.1	0.4	-1.2	-0.7	-0.7	-0.3	0.2
	8H	-0.1	0.3	0.4	0.8	1.2	0.0	0.4	0.4	0.8	1.3
	12H	1.2	1.6	1.7	2.1	2.6	1.1	1.5	1.6	2.0	2.5
8H	4H	-1.6	-1.2	-1.1	-0.7	-0.2	-2.1	-1.7	-1.6	-1.2	-0.8
	6H	0.1	0.5	0.6	1.0	1.4	0.0	0.3	0.5	0.8	1.3
	8H	1.2	1.5	1.7	2.0	2.5	1.3	1.6	1.8	2.1	2.6
	12H	2.7	2.9	3.2	3.4	4.0	2.7	2.9	3.2	3.4	4.0
12H	4H	-1.4	-1.1	-0.9	-0.6	-0.1	-2.0	-1.6	-1.5	-1.1	-0.6
	6H	0.5	0.8	1.0	1.2	1.8	0.3	0.6	0.8	1.0	1.6
	8H	1.7	1.9	2.2	2.4	3.0	1.7	2.0	2.3	2.5	3.1

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0