

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

ALDDH16LEDLX 100L 35K xx AL16 MWI xx
16" Diam. Alum Reflector MW Interior

Test Number

SP-01482_1

Test Date

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

Summary of Results

Power

Input Watts	80 W
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Lumen Output

Output Lumens	8552
Efficacy	106.9 lm/W

Luminous Dimensions

0° - 180° Size	-1.33
90° - 270° Size	-1.33
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.1
Two luminaires, plane 90°	1.1
Four luminaires	1.04

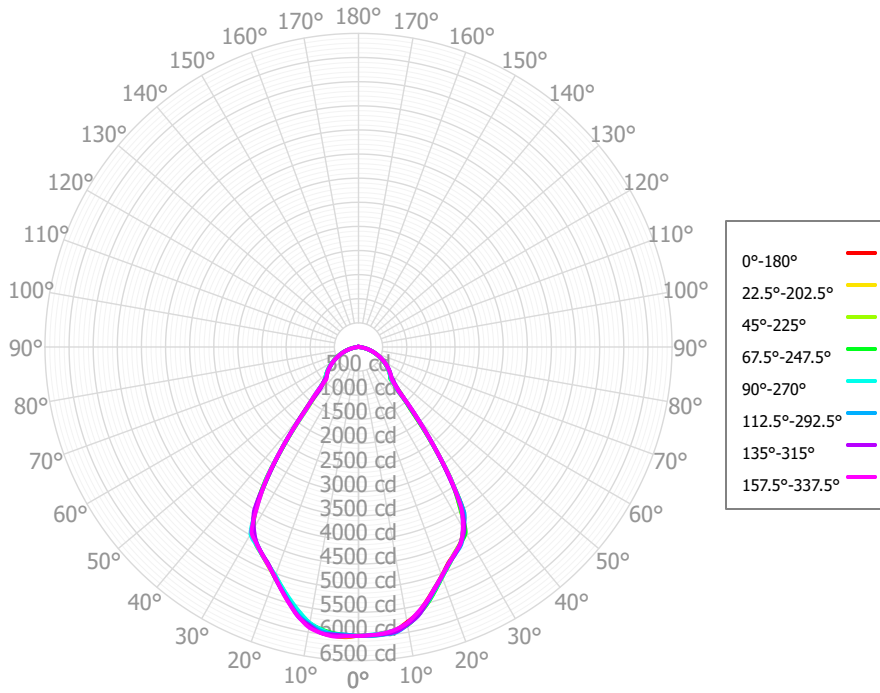
Full Beam Angle

0° - 180°	72°
90° - 270°	72°

IES File Header Contents

Keyword	Value
TEST	SP-01482_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TEST DATE	2/27/2023
ISSUEDATE	03/01/2023
LUMCAT	ALDDH16LEDLX 100L 35K xx AL16 MWI xx
LUMINAIRE	16" Diam. Alum Reflector MW Interior
LAMP	N/A
LAMPCAT	N/A
OTHER	Total Luminaire Watts is approximate
OTHER	This report is created by Spectrum Lighting
_CRI	80+
_CCTMULT	40K x 1.00, 30K x 0.98, 27K x 0.95
_LAMPMULT	65L x .701

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	574.60	6.72%	90.00° - 100.00°	2.57	0.03%
10.00° - 20.00°	1536.72	17.97%	100.00° - 110.00°	2.47	0.03%
20.00° - 30.00°	2179.38	25.48%	100.00° - 120.00°	4.90	0.06%
30.00° - 40.00°	1971.52	23.05%	120.00° - 130.00°	2.38	0.03%
40.00° - 50.00°	845.38	9.89%	130.00° - 140.00°	2.41	0.03%
50.00° - 60.00°	655.18	7.66%	140.00° - 150.00°	2.24	0.03%
60.00° - 70.00°	475.67	5.56%	150.00° - 160.00°	1.75	0.02%
70.00° - 80.00°	247.88	2.90%	160.00° - 170.00°	1.11	0.01%
80.00° - 90.00°	47.94	0.56%	170.00° - 180.00°	0.38	0.00%
0.00° - 90.00°	8534.27	99.79%	0.00° - 180.00°	8552.02	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°	5989.57	5989.57	5989.57	5989.57	5989.57	5989.57	5989.57	5989.57	5989.57	5989.57	5989.57	5989.57	5989.57	5989.57	5989.57	5989.57	5989.57
2.50°	5981.43	5988.71	5993.66	5984.09	5970.33	5969.68	5990.79	6001.62	6020.93	6009.92	5989.65	5974.52	5977.95	5997.10	5979.09	5982.25	5981.43
5.00°	5950.55	5970.36	5970.19	5982.22	5953.98	5967.70	5986.31	6023.11	6009.79	6000.18	5970.15	5954.72	5983.17	5985.94	5975.51	5959.61	5950.55
7.50°	5918.22	5908.22	5930.88	5924.57	5911.68	5937.95	5980.64	5978.29	5971.42	5927.34	5911.10	5903.04	5909.27	5967.89	5952.79	5907.99	5918.22
10.00°	5794.94	5840.62	5833.02	5855.16	5827.61	5838.12	5863.45	5903.69	5844.28	5834.14	5816.24	5815.40	5807.41	5847.48	5843.05	5808.34	5794.94
12.50°	5659.69	5664.19	5695.08	5691.16	5675.25	5703.32	5738.45	5730.56	5695.55	5670.97	5662.02	5640.81	5631.33	5706.24	5708.03	5644.58	5659.69
15.00°	5453.68	5479.56	5504.50	5512.12	5495.06	5495.67	5513.93	5520.44	5488.92	5494.23	5461.48	5454.29	5434.25	5482.78	5483.83	5458.61	5453.68
17.50°	5241.57	5264.93	5283.56	5293.99	5275.89	5286.21	5287.09	5296.37	5281.69	5280.08	5260.04	5243.55	5236.64	5247.19	5264.12	5247.13	5241.57
20.00°	5048.38	5049.61	5078.22	5071.69	5070.86	5073.54	5079.13	5067.98	5073.15	5077.97	5058.00	5050.15	5038.91	5058.27	5057.30	5052.25	5048.38
22.50°	4855.95	4878.91	4880.53	4895.20	4882.64	4885.64	4874.57	4895.40	4887.32	4903.07	4889.20	4886.26	4887.75	4873.83	4871.85	4873.60	4855.95
25.00°	4720.39	4709.86	4729.11	4721.60	4722.27	4734.55	4730.88	4736.36	4743.13	4743.22	4739.14	4735.02	4744.58	4742.37	4736.60	4721.37	4720.39
27.50°	4581.02	4576.06	4596.43	4586.68	4590.42	4572.72	4578.63	4586.12	4583.05	4612.11	4587.54	4602.17	4610.27	4613.74	4581.23	4591.04	4581.02
30.00°	4345.62	4409.89	4345.26	4443.47	4334.24	4397.15	4339.49	4437.48	4398.13	4370.80	4435.21	4355.72	4477.01	4358.31	4386.65	4327.30	4345.62
32.50°	4067.92	3896.70	4054.39	3894.72	3969.89	3963.72	4031.27	3893.30	3981.70	3950.26	3921.89	3969.21	3912.59	4086.41	3988.15	3968.36	4067.92
35.00°	3276.27	3339.58	3315.92	3327.74	3330.92	3250.69	3262.62	3296.40	3254.66	3339.47	3266.10	3338.53	3318.15	3282.59	3251.50	3319.38	3276.27
37.50°	2492.63	2467.24	2458.21	2469.08	2486.26	2501.55	2500.70	2507.72	2500.06	2467.42	2459.00	2452.20	2495.49	2486.12	2508.46	2495.81	2492.63
40.00°	1769.66	1672.78	1783.85	1655.88	1797.64	1718.64	1771.42	1703.05	1714.09	1760.80	1602.54	1760.37	1670.50	1791.06	1756.34	1819.88	1769.66
42.50°	1141.21	1278.26	1147.94	1271.50	1207.79	1243.69	1163.44	1313.16	1223.18	1246.82	1236.41	1244.16	1316.13	1155.99	1253.30	1219.57	1141.21
45.00°	1019.08	952.57	987.55	933.34	959.16	1013.23	1016.98	940.75	1017.68	963.26	996.94	987.06	976.78	1034.65	1049.97	992.20	1019.08
47.50°	909.88	902.16	899.90	887.69	894.72	891.45	894.10	894.78	896.66	911.01	914.83	931.46	925.36	922.65	919.70	923.21	909.88
50.00°	854.32	849.33	841.50	839.63	837.79	843.81	843.83	848.34	846.07	855.63	863.74	873.11	872.97	865.62	864.12	862.11	854.32
52.50°	796.91	788.83	786.18	780.41	784.22	787.23	790.33	790.14	790.39	797.56	802.95	812.97	810.82	807.52	804.74	803.80	796.91
55.00°	733.35	727.49	725.32	720.59	725.05	725.51	728.78	731.66	731.06	737.18	740.74	749.29	748.43	744.61	742.01	740.80	733.35
57.50°	670.25	663.94	664.14	658.58	663.81	662.95	666.49	669.82	670.45	675.10	676.48	683.65	684.35	681.33	678.11	676.47	670.25
60.00°	608.36	600.51	600.35	596.53	601.43	599.98	602.64	607.69	609.06	611.54	612.03	618.88	620.01	616.77	613.31	613.16	608.36
62.50°	545.85	537.30	536.56	534.32	538.70	538.08	538.85	543.29	545.68	547.04	549.40	554.52	554.42	552.20	548.92	550.08	545.85
65.00°	481.97	474.46	474.79	472.12	473.65	476.59	475.15	479.15	481.28	483.41	486.88	491.14	488.90	487.61	484.80	485.44	481.97
67.50°	418.51	412.30	412.97	409.93	408.04	413.58	412.76	416.38	418.38	420.23	422.82	428.15	423.67	423.39	420.81	420.54	418.51
70.00°	355.82	350.42	350.54	348.22	347.30	350.05	352.35	353.92	356.13	357.07	358.78	363.79	359.73	360.07	356.89	357.42	355.82
72.50°	294.27	288.95	288.61	287.49	287.45	288.66	291.95	292.79	294.56	293.92	295.98	298.99	299.75	297.72	296.59	294.51	294.27
75.00°	234.52	230.09	231.19	228.38	229.09	227.83	231.58	232.61	233.22	234.25	233.62	239.62	239.99	237.26	237.93	235.91	234.52
77.50°	177.07	174.65	174.45	172.04	170.93	172.93	173.98	175.61	176.71	175.86	177.27	181.61	180.80	178.94	180.05	177.60	177.07
80.00°	122.70	121.10	121.84	118.26	119.50	119.26	119.35	120.69	121.58	123.56	121.58	127.21	124.40	124.14	122.46	124.62	122.70
82.50°	73.99	69.68	71.99	68.13	68.63	71.52	71.62	71.33	72.84	73.05	71.53	73.51	73.81	74.67	72.71	72.03	73.99
85.00°	31.71	33.64	34.93	31.87	36.36	24.69	30.31	31.80	25.52	38.39	26.80	38.84	34.32	32.72	25.37	38.05	31.71
87.50°	8.54	12.14	5.49	12.74	4.90	12.22	9.21	14.05	11.43	7.45	13.22	6.93	14.53	8.04	10.38	5.68	8.54
90.00°	4.09	2.30	3.89	2.92	3.52	3.21	4.25	2.41	2.94	2.43	2.13	3.25	2.65	3.99	3.21	4.11	4.09
92.50°	2.17	1.96	2.58	2.87	2.21	2.08	2.32	2.23	2.17	1.97	2.15	2.22	2.61	2.08	2.08	2.68	2.17
95.00°	2.37	2.07	2.13	2.86	2.17	1.41	2.43	2.08	2.29	1.97	2.13	2.16	2.44	2.36	2.09	2.57	2.37
97.50°	2.48	2.47	2.02	2.87	2.13	1.63	2.30	1.97	2.17	2.02	2.01	2.15	2.10	2.53	2.10	2.48	2.48
100.00°	2.54	2.60	2.72	2.78	2.11	1.87	2.02	1.90	2.03	2.15	1.92	1.93	2.12	2.63	2.12	2.54	2.54
102.50°	2.56	2.56	3.02	2.61	2.16	1.93	2.11	1.87	2.29	2.28	1.92	1.72	2.54	2.52	2.32	2.62	2.56
105.00°	2.54	2.61	2.48	2.53	2.69	1.99	2.36	1.88	2.57	2.06	1.85	2.07	2.72	2.24	2.53	2.78	2.54

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	ptc	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%	10%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
	0	10177	10177	10177	10177	9938	9938	9938	9938	9492	9492	9492	9085	9085	9085	8710	8710	8534
	1	9532	9222	8945	8695	9310	9032	8781	8554	8675	8471	8284	8347	8183	8032	8045	7915	7751
	2	8888	8346	7898	7522	8682	8191	7781	7433	7899	7558	7263	7631	7348	7101	7382	7151	6946
	3	8294	7589	7043	6608	8103	7461	6957	6551	7220	6792	6439	6998	6636	6332	6791	6488	6228
	4	7752	6936	6339	5882	7577	6830	6274	5844	6629	6149	5768	6443	6030	5695	6270	5916	5623
	5	7259	6370	5749	5291	7100	6281	5699	5264	6113	5603	5211	5957	5510	5160	5811	5422	5109
	6	6812	5877	5250	4799	6667	5802	5210	4780	5660	5134	4742	5527	5061	4705	5403	4991	4669
	7	6405	5444	4821	4384	6274	5380	4789	4370	5259	4728	4342	5145	4670	4315	5039	4613	4288
	8	6035	5061	4449	4028	5916	5007	4423	4017	4903	4374	3996	4805	4326	3976	4713	4280	3956
	9	5698	4722	4123	3719	5590	4675	4103	3711	4585	4062	3695	4500	4022	3680	4420	3984	3664
	10	5391	4419	3837	3450	5292	4378	3820	3444	4300	3786	3431	4226	3753	3419	4156	3721	3407

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	198.0 fc	7.9 ft
6.5 ft	141.8 fc	9.4 ft
7.5 ft	106.5 fc	10.8 ft
8.0 ft	93.6 fc	11.6 ft
10.0 ft	59.9 fc	14.4 ft
12.0 ft	41.6 fc	17.3 ft
14.0 ft	30.6 fc	20.2 ft
16.0 ft	23.4 fc	23.1 ft
20.0 ft	15.0 fc	28.9 ft
24.0 ft	10.4 fc	34.7 ft
28.0 ft	7.6 fc	40.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	46406	46406	46406
45.00°	11166	10821	10510
55.00°	9906	9798	9794
65.00°	8836	8704	8683
75.00°	7020	6921	6858
85.00°	2819	3105	3233

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	17.1	18.3	17.4	18.7	19.0	17.1	18.4	17.5	18.7	19.0
	3H	18.7	19.8	19.1	20.1	20.5	18.7	19.8	19.1	20.2	20.5
	4H	19.2	20.3	19.6	20.6	21.0	19.2	20.3	19.6	20.6	21.0
	6H	19.5	20.5	19.9	20.9	21.3	19.5	20.5	20.0	20.9	21.3
	8H	19.6	20.5	20.0	20.9	21.3	19.6	20.5	20.0	20.9	21.3
	12H	19.6	20.5	20.0	20.9	21.3	19.6	20.5	20.0	20.9	21.3
4H	2H	17.6	18.7	18.0	19.0	19.4	17.6	18.7	18.0	19.0	19.4
	3H	19.4	20.3	19.8	20.7	21.1	19.4	20.3	19.8	20.7	21.1
	4H	20.0	20.8	20.5	21.2	21.7	20.1	20.8	20.5	21.3	21.7
	6H	20.4	21.1	20.9	21.6	22.0	20.5	21.1	20.9	21.6	22.1
	8H	20.5	21.1	21.0	21.6	22.1	20.5	21.2	21.0	21.6	22.1
	12H	20.5	21.1	21.0	21.6	22.1	20.6	21.1	21.1	21.6	22.1
8H	4H	20.2	20.9	20.7	21.3	21.8	20.2	20.9	20.7	21.3	21.8
	6H	20.7	21.2	21.2	21.7	22.2	20.7	21.3	21.2	21.8	22.2
	8H	20.8	21.3	21.4	21.8	22.3	20.9	21.3	21.4	21.8	22.3
	12H	20.9	21.3	21.4	21.8	22.4	20.9	21.3	21.4	21.8	22.4
12H	4H	20.2	20.8	20.7	21.3	21.7	20.2	20.8	20.7	21.3	21.8
	6H	20.7	21.2	21.3	21.7	22.2	20.8	21.2	21.3	21.7	22.2
	8H	20.9	21.3	21.4	21.8	22.4	20.9	21.3	21.4	21.8	22.4

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0