

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

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### Spectrum Lighting Photometric Lab

**Luminaire**

ALDDH16LEDLX 130L 35K xx AL16 MWI xx  
16" Diam. Alum Reflector MW Interior

**Test Number**

SP-01482\_2

**Test Date**

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

### Summary of Results

#### Power

Input Watts	98 W
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#### Lumen Output

Output Lumens	10714
Efficacy	109.33 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°	1.11
Four luminaires	1.04

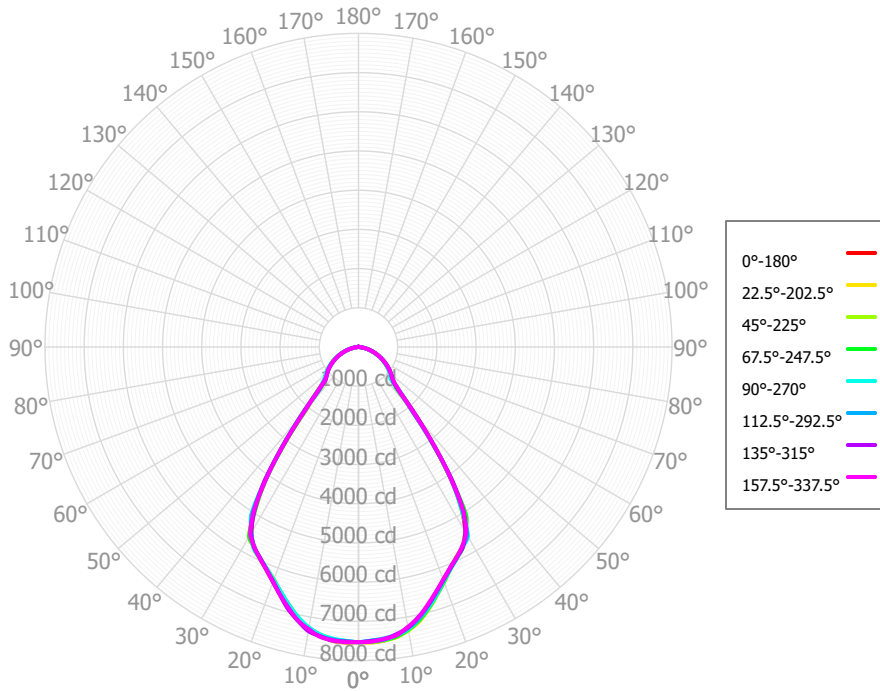
#### Full Beam Angle

0° - 180°	72°
90° - 270°	72°

### IES File Header Contents

Keyword	Value
TEST	SP-01482_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TEST DATE	2/27/2023
ISSUEDATE	03/01/2023
LUMCAT	ALDDH16LEDLX 130L 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

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	720.44	6.72%	90.00° - 100.00°	2.48	0.02%
10.00° - 20.00°	1926.91	17.99%	100.00° - 110.00°	2.53	0.02%
20.00° - 30.00°	2735.13	25.53%	100.00° - 120.00°	5.06	0.05%
30.00° - 40.00°	2474.81	23.10%	120.00° - 130.00°	2.57	0.02%
40.00° - 50.00°	1057.75	9.87%	130.00° - 140.00°	2.77	0.03%
50.00° - 60.00°	818.21	7.64%	140.00° - 150.00°	2.50	0.02%
60.00° - 70.00°	592.29	5.53%	150.00° - 160.00°	1.99	0.02%
70.00° - 80.00°	309.38	2.89%	160.00° - 170.00°	1.30	0.01%
80.00° - 90.00°	59.89	0.56%	170.00° - 180.00°	0.45	0.00%
0.00° - 90.00°	10694.82	99.82%	0.00° - 180.00°	10713.94	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°	7530.79	7530.79	7530.79	7530.79	7530.79	7530.79	7530.79	7530.79	7530.79	7530.79	7530.79	7530.79	7530.79	7530.79	7530.79	7530.79	7530.79
2.50°	7534.71	7549.08	7531.10	7530.18	7505.14	7520.08	7522.38	7540.34	7544.78	7546.90	7540.79	7509.71	7503.25	7497.35	7510.43	7527.24	7534.71
5.00°	7517.20	7515.97	7516.57	7503.05	7494.56	7489.75	7522.67	7509.50	7527.68	7521.78	7511.01	7483.86	7469.43	7465.00	7485.85	7477.95	7517.20
7.50°	7425.69	7468.49	7444.98	7453.63	7419.39	7450.31	7446.02	7462.63	7440.86	7454.24	7447.99	7403.68	7407.12	7402.83	7394.53	7420.49	7425.69
10.00°	7324.68	7336.93	7343.74	7320.02	7307.77	7308.66	7361.91	7314.86	7329.39	7340.07	7314.76	7278.05	7267.85	7279.68	7273.18	7251.62	7324.68
12.50°	7095.69	7173.96	7149.14	7143.66	7112.39	7152.53	7149.42	7145.46	7125.62	7152.54	7124.04	7074.43	7070.14	7103.73	7058.58	7070.40	7095.69
15.00°	6860.36	6913.74	6919.75	6901.57	6882.77	6893.62	6929.31	6893.45	6903.40	6904.20	6882.25	6821.99	6828.80	6848.19	6829.12	6811.92	6860.36
17.50°	6584.14	6628.97	6641.83	6635.19	6619.93	6629.10	6641.86	6639.64	6634.01	6640.94	6609.21	6569.71	6562.40	6591.47	6566.67	6557.64	6584.14
20.00°	6321.28	6367.98	6351.43	6381.89	6347.54	6377.24	6366.02	6381.15	6378.48	6368.42	6366.44	6317.50	6335.00	6333.39	6324.59	6319.73	6321.28
22.50°	6111.39	6110.69	6128.85	6131.92	6134.47	6131.26	6146.10	6145.94	6148.94	6150.87	6137.46	6120.78	6123.85	6118.51	6115.61	6099.14	6111.39
25.00°	5913.19	5929.22	5917.11	5945.34	5932.09	5949.75	5938.08	5954.96	5946.48	5958.69	5959.33	5942.32	5950.98	5940.98	5927.13	5924.22	5913.19
27.50°	5746.30	5752.14	5742.54	5768.44	5755.38	5753.83	5768.01	5750.03	5782.20	5770.38	5797.77	5763.14	5789.38	5748.05	5763.91	5729.44	5746.30
30.00°	5449.83	5444.99	5568.89	5454.34	5581.07	5478.92	5481.92	5525.50	5458.66	5583.34	5461.44	5583.80	5462.90	5545.14	5448.70	5497.03	5449.83
32.50°	4904.43	5088.67	4860.93	5127.80	4882.10	5056.68	4936.93	4983.98	4966.36	4898.75	5087.91	4887.31	5105.76	4927.56	4992.28	4995.37	4904.43
35.00°	4156.13	4109.47	4129.06	4123.97	4156.54	4126.12	4192.57	4107.00	4161.20	4106.12	4123.89	4126.79	4147.50	4109.06	4186.15	4110.16	4156.13
37.50°	3114.98	3139.66	3080.63	3127.59	3115.45	3180.73	3122.77	3155.24	3106.18	3081.94	3090.59	3094.79	3129.88	3140.73	3132.27	3174.73	3114.98
40.00°	2247.81	2225.82	2107.66	2222.45	2136.04	2199.28	2227.18	2142.96	2243.53	2029.74	2231.28	2067.93	2265.70	2119.90	2282.59	2184.76	2247.81
42.50°	1569.36	1465.80	1595.63	1424.66	1600.51	1487.31	1547.27	1562.13	1497.34	1592.86	1402.24	1626.07	1441.35	1627.72	1540.08	1584.91	1569.36
45.00°	1224.49	1282.50	1178.75	1255.45	1156.92	1257.45	1183.11	1246.10	1209.80	1192.54	1271.49	1221.19	1301.10	1258.76	1265.97	1304.44	1224.49
47.50°	1152.35	1131.66	1117.35	1108.57	1099.09	1100.57	1113.61	1106.07	1125.11	1129.54	1146.99	1158.04	1168.85	1156.03	1168.41	1155.35	1152.35
50.00°	1077.58	1063.82	1052.44	1044.31	1038.52	1040.82	1044.81	1045.05	1052.11	1065.49	1076.98	1092.28	1096.51	1089.12	1088.52	1086.68	1077.58
52.50°	1001.19	992.16	978.41	976.50	970.13	974.27	976.50	976.80	982.71	991.87	1005.66	1013.66	1022.62	1012.75	1013.23	1010.34	1001.19
55.00°	922.37	913.33	903.02	899.55	899.14	900.89	903.24	906.28	909.91	917.39	927.87	934.55	941.92	935.77	932.87	930.51	922.37
57.50°	842.42	834.55	825.05	822.98	822.87	825.37	827.38	830.03	836.42	838.60	849.78	853.89	860.91	853.53	851.70	850.11	842.42
60.00°	760.92	755.83	746.17	747.09	745.52	748.21	749.62	752.58	756.56	759.58	770.69	772.71	778.99	771.26	768.08	769.53	760.92
62.50°	678.92	676.23	665.99	669.99	666.53	670.15	671.13	672.45	675.98	679.77	690.34	690.32	696.65	688.61	684.27	687.55	678.92
65.00°	598.37	595.70	586.71	591.20	587.83	591.58	592.55	592.01	596.46	599.95	607.16	608.46	613.46	606.57	603.73	605.28	598.37
67.50°	518.12	517.31	508.36	512.41	509.45	513.14	513.95	515.56	517.04	520.12	526.12	527.46	531.03	527.83	523.33	525.46	518.12
70.00°	439.54	440.62	431.59	433.61	432.57	434.76	437.74	439.23	439.33	441.56	448.62	447.86	449.79	449.34	444.88	445.93	439.54
72.50°	361.15	365.56	356.09	359.42	356.97	360.53	361.92	362.56	362.17	365.10	372.45	370.00	372.40	371.68	367.22	371.35	361.15
75.00°	291.59	291.47	284.14	288.87	285.26	287.51	289.88	286.58	289.73	291.04	297.94	296.00	299.47	295.92	294.49	297.09	291.59
77.50°	222.39	222.51	214.35	219.73	216.09	218.50	218.13	216.64	218.02	219.99	226.67	225.71	229.16	224.72	222.82	226.41	222.39
80.00°	153.58	155.81	147.77	151.43	150.11	150.24	152.30	148.36	149.81	152.23	158.45	157.01	161.13	155.76	155.11	156.44	153.58
82.50°	87.27	93.80	82.62	91.93	85.65	90.42	87.97	88.09	86.90	87.60	96.21	89.45	98.28	90.71	92.17	92.67	87.27
85.00°	43.46	33.24	42.18	36.29	44.10	31.41	44.68	37.47	40.54	43.19	38.20	44.63	38.87	42.23	41.74	36.48	43.46
87.50°	6.53	14.07	9.53	14.81	10.51	15.83	6.96	16.90	7.62	13.29	12.49	12.01	13.26	15.64	7.50	17.28	6.53
90.00°	3.96	3.35	3.16	3.99	3.30	1.78	4.21	2.56	4.15	2.50	4.00	2.60	4.48	2.35	3.84	2.66	3.96
92.50°	1.95	2.30	2.28	2.06	2.17	2.06	2.01	2.09	1.98	2.04	1.70	2.30	2.07	2.31	1.76	2.48	1.95
95.00°	1.75	2.31	2.03	1.93	2.16	2.33	1.98	1.97	1.90	1.95	1.83	1.99	1.92	2.41	1.93	2.52	1.75
97.50°	1.71	2.35	1.86	2.19	2.31	2.46	1.97	2.45	1.78	2.00	1.82	1.67	2.03	2.61	2.05	3.02	1.71
100.00°	2.05	2.38	2.32	2.50	2.27	2.51	2.02	2.66	1.63	2.18	1.78	2.01	2.20	2.66	2.11	3.02	2.05
102.50°	2.49	2.38	2.78	2.64	2.22	2.27	2.14	2.52	1.80	2.39	1.83	2.46	2.21	2.63	2.26	2.18	2.49
105.00°	3.10	2.40	2.83	2.76	2.33	2.13	2.38	2.47	2.29	2.19	1.89	2.23	2.19	2.55	2.47	1.85	3.10

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>pfc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
	<b>0</b>	12750	12750	12750	12750	12451	12451	12451	12451	11894	11894	11894	11384	11384	11384	10915	10915	10915
	<b>1</b>	11943	11556	11209	10896	11665	11317	11004	10719	10871	10616	10382	10461	10256	10066	10082	9920	9768
	<b>2</b>	11138	10459	9898	9427	10879	10265	9752	9317	9900	9473	9104	9564	9211	8901	9253	8964	8707
	<b>3</b>	10393	9511	8828	8284	10155	9351	8720	8212	9050	8514	8073	8772	8319	7938	8513	8133	7808
	<b>4</b>	9715	8693	7946	7375	9496	8561	7865	7326	8310	7708	7232	8078	7560	7140	7861	7418	7051
	<b>5</b>	9098	7985	7208	6634	8899	7874	7145	6600	7664	7024	6534	7468	6909	6470	7285	6798	6407
	<b>6</b>	8537	7367	6582	6018	8356	7273	6533	5994	7095	6437	5947	6929	6346	5900	6774	6258	5855
	<b>7</b>	8028	6824	6044	5497	7864	6745	6005	5479	6593	5929	5445	6451	5855	5411	6318	5785	5377
	<b>8</b>	7564	6345	5578	5051	7415	6277	5546	5038	6147	5484	5012	6024	5425	4986	5910	5367	4961
	<b>9</b>	7142	5919	5170	4664	7007	5860	5144	4654	5748	5093	4634	5642	5044	4615	5542	4996	4595
	<b>10</b>	6757	5540	4811	4326	6634	5489	4790	4319	5391	4747	4303	5299	4706	4288	5211	4666	4273

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	249.0 fc	8.0 ft
6.5 ft	178.2 fc	9.4 ft
7.5 ft	133.9 fc	10.9 ft
8.0 ft	117.7 fc	11.6 ft
10.0 ft	75.3 fc	14.5 ft
12.0 ft	52.3 fc	17.4 ft
14.0 ft	38.4 fc	20.3 ft
16.0 ft	29.4 fc	23.2 ft
20.0 ft	18.8 fc	29.0 ft
24.0 ft	13.1 fc	34.8 ft
28.0 ft	9.6 fc	40.6 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	58347	58347	58347
<b>45.00°</b>	13417	12916	12676
<b>55.00°</b>	12459	12198	12145
<b>65.00°</b>	10970	10756	10777
<b>75.00°</b>	8729	8506	8539
<b>85.00°</b>	3864	3750	3920

### 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	17.9	19.2	18.3	19.5	19.8	17.9	19.1	18.2	19.4	19.8
	3H	19.5	20.6	19.8	20.9	21.3	19.4	20.6	19.8	20.9	21.3
	4H	20.0	21.0	20.4	21.4	21.8	20.0	21.0	20.4	21.4	21.8
	6H	20.3	21.3	20.7	21.7	22.0	20.3	21.3	20.7	21.6	22.0
	8H	20.4	21.3	20.8	21.7	22.1	20.4	21.3	20.8	21.7	22.1
	12H	20.4	21.2	20.8	21.6	22.1	20.4	21.2	20.8	21.6	22.1
4H	2H	18.4	19.4	18.8	19.8	20.2	18.4	19.4	18.8	19.8	20.2
	3H	20.2	21.0	20.6	21.4	21.8	20.2	21.0	20.6	21.4	21.8
	4H	20.8	21.6	21.2	22.0	22.5	20.8	21.6	21.2	22.0	22.5
	6H	21.2	21.9	21.7	22.3	22.8	21.2	21.9	21.7	22.3	22.8
	8H	21.3	21.9	21.8	22.4	22.9	21.3	21.9	21.8	22.4	22.9
	12H	21.3	21.9	21.8	22.4	22.8	21.3	21.9	21.8	22.4	22.8
8H	4H	21.0	21.6	21.5	22.1	22.6	21.0	21.6	21.5	22.1	22.6
	6H	21.5	22.0	22.0	22.5	23.0	21.5	22.0	22.0	22.5	23.0
	8H	21.6	22.1	22.2	22.6	23.1	21.6	22.1	22.2	22.6	23.1
	12H	21.7	22.1	22.2	22.6	23.1	21.7	22.1	22.2	22.6	23.1
12H	4H	21.0	21.5	21.5	22.0	22.5	21.0	21.5	21.5	22.0	22.5
	6H	21.5	22.0	22.0	22.4	23.0	21.5	22.0	22.0	22.4	23.0
	8H	21.7	22.1	22.2	22.6	23.1	21.7	22.1	22.2	22.6	23.1

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0