

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

ALDDH16LEDLX 130L 35K xx AL16 MWI TF3 xx
16" Diam. Alum Reflector MW Interior with TF3 Lens

Test Number

SP-01504_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	9540
Efficacy	97.35 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.06
Two luminaires, plane 90°	1.06
Four luminaires	1.03

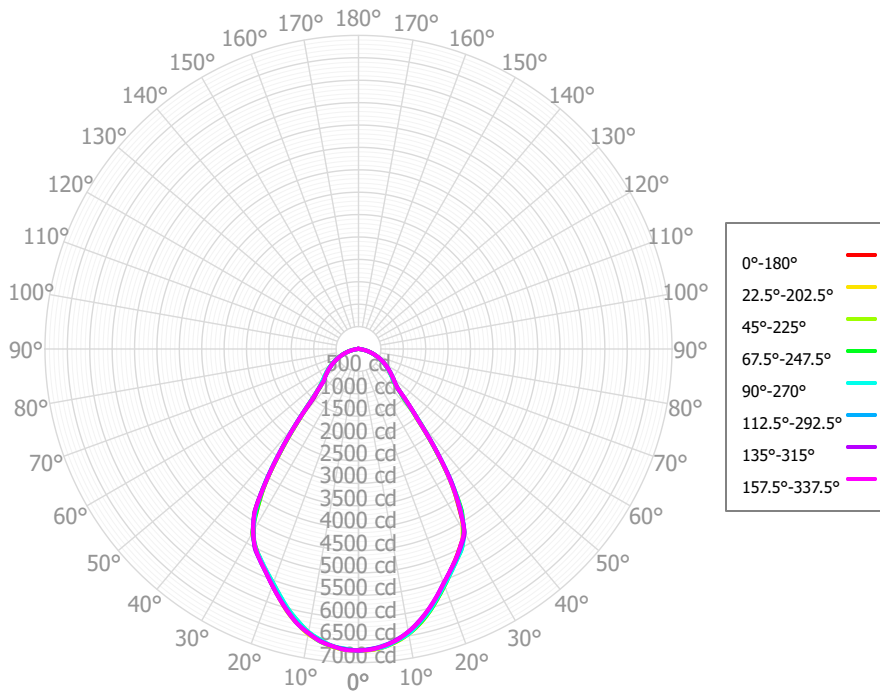
Full Beam Angle

0° - 180°	71°
90° - 270°	72°

IES File Header Contents

Keyword	Value
TEST	SP-01504_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 TF3 xx
LUMINAIRE	16" Diam. Alum Reflector MW Interior with TF3 Lens
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°	637.85	6.69%	90.00° - 100.00°	3.67	0.04%
10.00° - 20.00°	1697.98	17.80%	100.00° - 110.00°	3.46	0.04%
20.00° - 30.00°	2380.53	24.95%	100.00° - 120.00°	6.65	0.07%
30.00° - 40.00°	2167.28	22.72%	120.00° - 130.00°	2.49	0.03%
40.00° - 50.00°	1034.10	10.84%	130.00° - 140.00°	2.37	0.02%
50.00° - 60.00°	743.42	7.79%	140.00° - 150.00°	2.28	0.02%
60.00° - 70.00°	528.31	5.54%	150.00° - 160.00°	1.76	0.02%
70.00° - 80.00°	275.70	2.89%	160.00° - 170.00°	1.14	0.01%
80.00° - 90.00°	54.41	0.57%	170.00° - 180.00°	0.39	0.00%
0.00° - 90.00°	9519.58	99.78%	0.00° - 180.00°	9540.32	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°	6731.14	6731.14	6731.14	6731.14	6731.14	6731.14	6731.14	6731.14	6731.14	6731.14	6731.14	6731.14	6731.14	6731.14	6731.14	6731.14	6731.14
2.50°	6719.13	6725.88	6725.95	6708.74	6704.05	6719.21	6708.67	6727.38	6720.39	6721.04	6728.22	6704.51	6696.83	6703.70	6698.63	6718.11	6719.13
5.00°	6673.01	6678.34	6669.51	6663.76	6676.63	6655.68	6660.72	6659.46	6667.44	6675.35	6667.99	6661.71	6654.93	6637.88	6648.35	6647.88	6673.01
7.50°	6570.96	6587.92	6584.46	6576.31	6569.31	6584.65	6570.17	6582.26	6576.40	6579.64	6590.76	6551.11	6543.32	6553.76	6541.03	6556.88	6570.96
10.00°	6441.10	6461.87	6455.04	6453.27	6456.31	6437.11	6445.94	6438.01	6446.78	6466.48	6443.40	6419.20	6414.87	6410.35	6411.20	6407.27	6441.10
12.50°	6253.57	6294.48	6289.74	6285.58	6267.66	6284.38	6286.73	6288.79	6284.27	6287.70	6280.23	6229.32	6224.57	6244.70	6225.20	6236.00	6253.57
15.00°	6045.24	6090.08	6082.14	6084.58	6073.00	6065.18	6085.62	6071.90	6080.73	6093.69	6061.96	6027.67	6021.68	6028.68	6023.72	6021.16	6045.24
17.50°	5811.78	5853.29	5852.95	5852.09	5838.44	5845.05	5851.27	5853.83	5850.60	5853.89	5836.37	5798.10	5786.55	5805.46	5792.96	5798.71	5811.78
20.00°	5572.25	5618.95	5604.58	5622.37	5609.18	5617.10	5625.51	5622.17	5621.04	5607.76	5610.83	5565.37	5563.10	5570.31	5557.22	5564.98	5572.25
22.50°	5358.65	5386.21	5383.89	5394.62	5400.88	5396.18	5404.84	5396.25	5391.76	5396.96	5386.18	5371.39	5361.19	5356.32	5357.69	5350.13	5358.65
25.00°	5148.72	5178.71	5181.97	5192.83	5197.69	5208.06	5206.25	5202.83	5192.58	5188.08	5197.98	5178.22	5168.58	5168.85	5161.09	5156.60	5148.72
27.50°	4935.43	4983.59	4960.18	5004.95	5008.42	4998.24	5017.18	4990.93	5003.55	4980.55	4998.57	4974.33	4988.91	4957.53	4960.24	4939.96	4935.43
30.00°	4718.59	4650.96	4728.46	4678.47	4720.23	4722.15	4692.91	4713.85	4678.54	4742.02	4686.86	4733.82	4688.01	4723.67	4739.12	4703.64	4718.59
32.50°	4155.95	4270.35	4190.36	4298.57	4239.06	4308.59	4327.21	4306.21	4322.61	4176.20	4305.06	4184.73	4260.42	4240.41	4194.39	4211.81	4155.95
35.00°	3575.66	3568.32	3540.96	3593.90	3626.48	3594.21	3613.88	3575.53	3578.59	3574.15	3558.63	3593.96	3624.72	3577.36	3617.55	3554.49	3575.66
37.50°	2792.60	2790.02	2793.57	2804.05	2821.47	2864.89	2832.34	2843.68	2784.21	2772.28	2820.87	2803.90	2825.13	2848.65	2824.47	2830.32	2792.60
40.00°	2057.17	2130.20	2022.31	2134.46	2125.16	2111.24	2150.06	2109.73	2119.09	2043.63	2111.84	2086.38	2153.48	2084.82	2092.86	2074.31	2057.17
42.50°	1590.48	1486.75	1576.45	1484.59	1548.38	1555.74	1478.03	1557.13	1470.05	1568.76	1538.03	1594.28	1558.16	1608.14	1607.49	1606.23	1590.48
45.00°	1201.56	1263.75	1177.30	1253.33	1210.63	1241.40	1253.83	1249.68	1258.56	1200.29	1281.83	1221.60	1269.88	1243.97	1220.68	1237.06	1201.56
47.50°	1092.53	1066.84	1067.25	1055.49	1071.06	1050.43	1047.46	1055.98	1058.94	1086.88	1088.73	1109.93	1115.19	1098.16	1104.88	1093.46	1092.53
50.00°	991.22	986.31	975.36	974.87	969.65	972.66	973.72	978.02	980.12	986.21	1005.18	1008.65	1014.81	1010.76	1000.59	1001.14	991.22
52.50°	909.00	906.02	896.07	894.97	892.26	896.53	899.60	901.13	901.98	908.06	922.67	924.30	931.22	927.97	918.94	918.45	909.00
55.00°	829.10	828.31	817.06	819.70	816.23	821.54	822.37	825.06	827.38	830.65	841.52	844.20	850.78	845.92	838.71	837.02	829.10
57.50°	753.37	751.04	741.40	744.59	740.84	745.99	745.87	750.65	752.56	754.22	764.93	769.25	770.97	768.88	760.55	759.25	753.37
60.00°	677.94	676.18	666.34	670.53	668.71	670.16	672.63	677.21	677.03	679.38	692.79	694.45	695.62	692.23	684.88	681.77	677.94
62.50°	602.91	602.04	594.74	596.99	597.66	598.77	600.09	603.42	602.91	606.14	617.69	619.79	620.75	616.66	611.98	608.77	602.91
65.00°	530.05	530.42	523.21	525.47	525.00	529.02	529.62	529.50	532.13	534.49	540.37	545.11	547.21	541.28	538.48	535.92	530.05
67.50°	459.41	459.93	451.93	454.56	452.00	458.36	459.54	460.30	461.76	464.06	469.38	470.40	473.85	468.57	464.47	464.56	459.41
70.00°	390.86	392.22	382.40	385.25	386.22	387.46	390.28	392.51	392.11	394.50	401.90	399.35	403.65	396.63	393.96	393.59	390.86
72.50°	323.92	324.81	317.27	318.23	321.35	321.86	323.14	326.10	325.58	325.45	335.23	330.22	333.88	329.62	325.69	324.66	323.92
75.00°	257.69	257.97	253.46	255.63	256.68	257.09	259.32	259.95	263.04	259.26	268.89	265.43	267.71	263.67	259.94	257.49	257.69
77.50°	191.88	194.37	192.01	194.21	192.22	194.65	196.50	197.75	200.51	194.26	204.94	202.26	202.52	201.89	195.38	196.29	191.88
80.00°	131.43	135.12	132.86	134.51	134.25	132.41	134.88	135.97	137.96	135.06	141.65	141.75	141.84	140.94	135.86	136.40	131.43
82.50°	73.27	82.51	76.82	81.43	78.18	80.52	80.87	83.20	83.62	77.53	87.54	81.92	85.23	82.21	78.04	79.62	73.27
85.00°	37.90	36.57	37.07	35.55	39.91	31.22	33.81	32.34	35.41	40.92	35.08	43.99	41.08	36.38	40.00	35.90	37.90
87.50°	9.32	12.45	13.97	11.99	7.52	15.82	11.11	17.66	12.93	8.18	18.03	9.51	9.69	15.39	6.30	14.62	9.32
90.00°	3.98	4.86	4.05	6.72	4.54	2.70	5.09	4.60	4.78	3.99	4.13	5.17	5.84	2.94	2.89	2.63	3.98
92.50°	3.04	2.40	4.43	4.93	2.54	3.36	2.90	3.90	2.58	2.46	3.38	2.97	3.28	2.84	3.21	2.71	3.04
95.00°	2.74	2.88	4.27	5.29	3.73	3.97	2.64	3.31	2.77	2.61	2.81	2.78	2.80	2.75	2.80	2.77	2.74
97.50°	2.50	3.19	3.80	5.31	4.54	4.37	3.14	3.25	3.03	2.75	2.78	2.62	2.86	2.69	2.38	2.80	2.50
100.00°	2.75	3.44	3.87	5.16	4.49	4.47	3.92	3.09	3.32	2.17	2.85	2.73	3.56	2.60	3.11	2.61	2.75
102.50°	2.98	2.96	4.18	5.00	4.14	3.81	4.23	2.61	2.46	1.70	3.57	2.91	3.60	2.50	3.79	2.25	2.98
105.00°	2.66	2.27	4.07	4.84	3.30	3.47	4.43	2.25	1.41	2.09	4.04	3.53	3.04	3.15	3.94	2.20	2.66

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%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	11353	11353	11353	11353	11086	11086	11086	11086	10589	10589	10589	10134	10134	10134	9716	9716	9716	9520
	1	10630	10283	9973	9693	10382	10071	9790	9535	9672	9444	9235	9306	9123	8953	8969	8823	8688	8641
	2	9908	9301	8799	8377	9677	9127	8668	8279	8802	8419	8089	8502	8185	7908	8224	7965	7735	7800
	3	9241	8451	7840	7353	9028	8308	7744	7289	8039	7559	7164	7791	7385	7044	7560	7219	6928	7071
	4	8633	7719	7049	6538	8438	7600	6977	6495	7376	6837	6411	7168	6704	6329	6975	6577	6249	6445
	5	8081	7085	6388	5875	7903	6985	6333	5845	6797	6225	5786	6622	6121	5728	6459	6022	5672	5904
	6	7579	6532	5828	5324	7417	6448	5785	5302	6289	5700	5260	6140	5618	5219	6001	5539	5178	5435
	7	7124	6047	5348	4859	6977	5975	5313	4843	5840	5245	4812	5713	5180	4782	5594	5116	4752	5023
	8	6710	5619	4932	4461	6577	5558	4904	4449	5441	4849	4426	5332	4795	4403	5229	4744	4380	4661
	9	6333	5240	4569	4117	6212	5187	4546	4108	5086	4501	4090	4991	4456	4072	4902	4414	4055	4340
	10	5990	4902	4250	3816	5880	4856	4231	3809	4768	4193	3796	4686	4156	3782	4608	4120	3768	4055

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	222.5 fc	7.9 ft
6.5 ft	159.3 fc	9.3 ft
7.5 ft	119.7 fc	10.8 ft
8.0 ft	105.2 fc	11.5 ft
10.0 ft	67.3 fc	14.4 ft
12.0 ft	46.7 fc	17.2 ft
14.0 ft	34.3 fc	20.1 ft
16.0 ft	26.3 fc	23.0 ft
20.0 ft	16.8 fc	28.7 ft
24.0 ft	11.7 fc	34.5 ft
28.0 ft	8.6 fc	40.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	52151	52151	52151
45.00°	13166	12900	13265
55.00°	11199	11037	11026
65.00°	9717	9592	9625
75.00°	7714	7587	7684
85.00°	3369	3295	3548

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	17.5	18.8	17.9	19.1	19.4	17.5	18.8	17.9	19.1	19.4
	3H	19.1	20.2	19.4	20.5	20.9	19.1	20.2	19.5	20.6	20.9
	4H	19.6	20.6	20.0	21.0	21.4	19.6	20.7	20.0	21.0	21.4
	6H	19.9	20.8	20.3	21.2	21.6	19.9	20.9	20.3	21.3	21.7
	8H	19.9	20.8	20.4	21.2	21.7	20.0	20.9	20.4	21.3	21.7
	12H	19.9	20.8	20.4	21.2	21.6	20.0	20.9	20.4	21.3	21.7
4H	2H	18.0	19.1	18.4	19.4	19.8	18.0	19.1	18.4	19.5	19.8
	3H	19.8	20.6	20.2	21.0	21.5	19.8	20.7	20.2	21.1	21.5
	4H	20.4	21.2	20.8	21.6	22.0	20.4	21.2	20.9	21.6	22.1
	6H	20.8	21.5	21.2	21.9	22.4	20.8	21.5	21.3	22.0	22.4
	8H	20.8	21.5	21.3	21.9	22.4	20.9	21.6	21.4	22.0	22.5
	12H	20.9	21.4	21.4	21.9	22.4	21.0	21.5	21.4	22.0	22.5
8H	4H	20.6	21.2	21.0	21.7	22.1	20.6	21.3	21.1	21.7	22.2
	6H	21.1	21.6	21.6	22.1	22.6	21.1	21.6	21.6	22.1	22.6
	8H	21.2	21.6	21.7	22.1	22.6	21.3	21.7	21.8	22.2	22.7
	12H	21.2	21.6	21.7	22.1	22.7	21.3	21.7	21.8	22.2	22.8
12H	4H	20.6	21.1	21.1	21.6	22.1	20.6	21.2	21.1	21.7	22.2
	6H	21.1	21.5	21.6	22.0	22.5	21.1	21.6	21.7	22.1	22.6
	8H	21.2	21.6	21.7	22.1	22.7	21.3	21.7	21.8	22.2	22.8

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0