

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

ALDDH16LEDLX 100L 35K xx AL16 MWI TF3 xx
16" Diam. Alum Reflector MW Interior with TF3 Lens

Test Number

SP-01504_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	7659
Efficacy	95.74 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

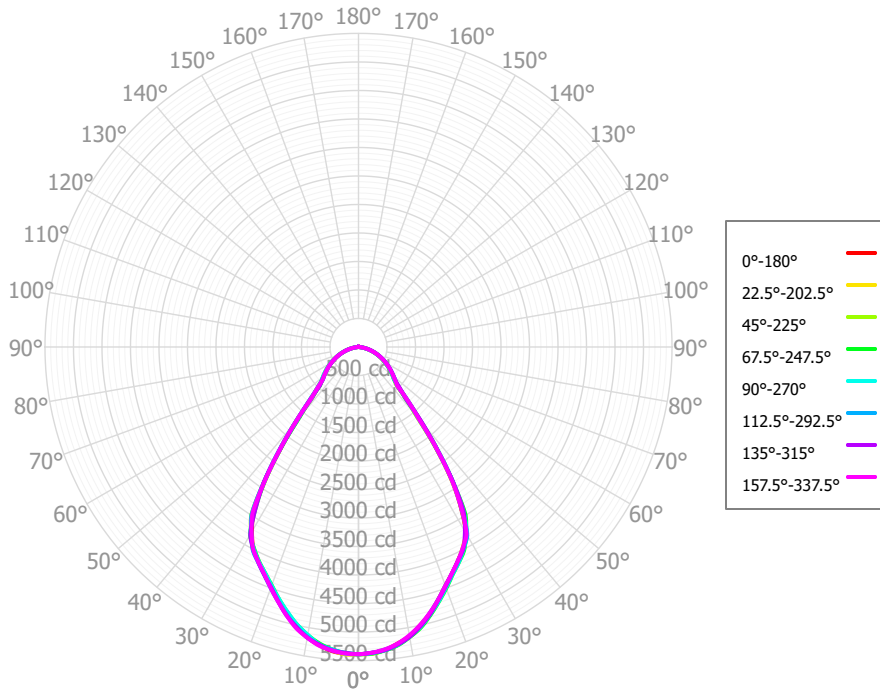
Full Beam Angle

0° - 180°	71°
90° - 270°	71°

IES File Header Contents

Keyword	Value
TEST	SP-01504_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 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
_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°	510.98	6.67%	90.00° - 100.00°	3.46	0.05%
10.00° - 20.00°	1358.84	17.74%	100.00° - 110.00°	3.31	0.04%
20.00° - 30.00°	1905.86	24.88%	100.00° - 120.00°	6.08	0.08%
30.00° - 40.00°	1738.52	22.70%	120.00° - 130.00°	2.40	0.03%
40.00° - 50.00°	830.14	10.84%	130.00° - 140.00°	2.35	0.03%
50.00° - 60.00°	599.09	7.82%	140.00° - 150.00°	2.12	0.03%
60.00° - 70.00°	427.75	5.58%	150.00° - 160.00°	1.63	0.02%
70.00° - 80.00°	223.74	2.92%	160.00° - 170.00°	1.07	0.01%
80.00° - 90.00°	44.86	0.59%	170.00° - 180.00°	0.37	0.00%
0.00° - 90.00°	7639.78	99.75%	0.00° - 180.00°	7659.28	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°	5388.73	5388.73	5388.73	5388.73	5388.73	5388.73	5388.73	5388.73	5388.73	5388.73	5388.73	5388.73	5388.73	5388.73	5388.73	5388.73	5388.73
2.50°	5372.58	5387.64	5382.53	5384.05	5377.12	5369.35	5370.55	5382.80	5387.25	5398.15	5384.64	5374.07	5383.75	5369.74	5369.57	5367.68	5372.58
5.00°	5333.65	5332.18	5338.16	5340.41	5326.34	5330.66	5345.48	5343.25	5353.65	5339.17	5335.56	5324.87	5326.26	5339.54	5335.32	5323.64	5333.65
7.50°	5247.93	5268.71	5262.71	5278.53	5267.75	5268.75	5268.43	5286.23	5276.06	5275.63	5262.63	5245.75	5262.32	5264.20	5263.90	5248.31	5247.93
10.00°	5150.09	5152.41	5158.81	5169.39	5153.58	5163.64	5178.04	5178.04	5170.75	5155.28	5149.10	5131.67	5126.72	5157.67	5162.87	5135.04	5150.09
12.50°	4998.25	5024.25	5017.50	5044.06	5028.26	5031.42	5031.18	5053.15	5025.23	5027.12	5016.47	4988.10	4985.42	5007.53	5018.65	4994.22	4998.25
15.00°	4837.92	4848.04	4850.40	4870.68	4855.23	4864.54	4875.55	4875.74	4859.28	4851.14	4845.77	4818.10	4811.55	4834.68	4850.50	4827.81	4837.92
17.50°	4647.75	4667.67	4665.74	4686.10	4677.98	4681.41	4681.93	4687.07	4671.02	4672.62	4662.37	4637.47	4636.42	4649.25	4656.07	4647.15	4647.75
20.00°	4455.36	4475.87	4472.12	4502.54	4488.65	4501.40	4485.53	4500.68	4489.39	4484.36	4483.44	4449.68	4456.80	4459.12	4470.48	4456.38	4455.36
22.50°	4294.05	4295.76	4302.47	4319.11	4312.43	4322.44	4324.33	4314.58	4313.33	4305.94	4305.52	4287.88	4288.03	4298.42	4292.23	4288.57	4294.05
25.00°	4132.81	4138.61	4141.76	4167.25	4162.95	4166.83	4162.95	4158.82	4150.56	4153.26	4155.65	4139.27	4146.48	4145.36	4132.75	4132.91	4132.81
27.50°	3972.54	3963.28	3973.25	4015.56	3995.47	4016.47	3998.09	4001.82	3996.14	3983.34	4009.53	3974.07	3985.40	3981.45	3985.15	3965.32	3972.54
30.00°	3775.56	3761.11	3802.77	3771.00	3800.42	3761.74	3796.45	3750.17	3738.39	3780.88	3762.64	3802.85	3788.80	3815.82	3734.70	3793.18	3775.56
32.50°	3345.78	3392.25	3358.69	3494.50	3434.48	3493.65	3364.41	3465.23	3432.05	3423.11	3502.46	3368.92	3436.34	3363.38	3435.56	3358.45	3345.78
35.00°	2874.76	2838.05	2871.59	2881.00	2869.14	2889.38	2891.31	2865.93	2876.27	2844.23	2876.26	2870.59	2869.59	2890.45	2889.83	2854.06	2874.76
37.50°	2241.27	2254.82	2234.76	2274.05	2280.99	2271.41	2257.93	2273.02	2237.31	2256.08	2256.29	2248.36	2287.94	2267.32	2261.23	2258.18	2241.27
40.00°	1670.83	1646.85	1587.40	1703.46	1672.72	1724.32	1684.90	1713.19	1706.53	1657.85	1700.77	1607.52	1690.85	1661.17	1734.03	1646.98	1670.83
42.50°	1268.89	1251.04	1251.48	1213.11	1264.69	1208.94	1272.05	1234.17	1199.55	1250.64	1204.67	1269.57	1281.09	1297.06	1229.35	1293.36	1268.89
45.00°	972.31	991.11	933.78	1008.80	989.53	1018.53	966.91	1022.92	1009.15	1000.57	1025.14	953.77	1020.24	971.06	1033.18	960.19	972.31
47.50°	878.33	860.35	858.10	845.27	852.73	848.50	870.90	855.20	859.49	864.34	871.41	878.93	881.43	887.99	877.28	878.98	878.33
50.00°	796.15	791.53	784.09	782.14	784.90	786.49	788.26	789.93	792.15	798.34	806.88	804.97	815.26	808.40	807.30	799.73	796.15
52.50°	731.06	726.37	720.64	719.74	722.47	724.79	724.87	726.89	728.99	734.06	742.95	741.76	749.01	742.31	741.49	735.59	731.06
55.00°	667.74	662.46	657.56	658.63	661.97	664.09	663.19	667.66	667.72	670.57	680.47	678.80	682.74	677.84	678.53	671.87	667.74
57.50°	606.39	602.49	595.90	598.59	601.67	604.57	603.40	608.46	606.72	610.74	618.75	617.33	620.88	617.77	615.88	611.02	606.39
60.00°	546.22	543.45	535.30	540.00	541.42	547.87	544.71	549.31	548.36	552.10	558.38	556.44	560.41	557.45	556.27	550.43	546.22
62.50°	487.06	485.75	477.49	481.86	483.24	490.05	486.94	491.22	490.22	493.81	499.11	497.74	499.66	496.64	496.77	490.86	487.06
65.00°	429.27	428.23	420.34	424.17	425.36	430.22	429.54	434.19	433.28	435.60	441.29	438.63	438.87	436.63	437.79	431.93	429.27
67.50°	372.33	370.54	364.46	368.32	369.28	371.57	372.37	376.84	376.24	377.89	383.46	378.46	381.86	377.79	379.82	374.76	372.33
70.00°	316.32	312.95	309.77	313.91	313.35	314.47	315.98	319.27	318.89	320.25	325.63	320.22	325.27	320.92	325.29	318.30	316.32
72.50°	260.74	261.13	256.76	261.58	260.63	260.19	259.95	264.49	263.12	267.32	270.08	265.63	270.68	266.20	270.70	263.30	260.74
75.00°	208.26	209.31	204.80	210.46	208.09	208.73	207.97	211.29	211.10	214.65	216.28	212.54	216.29	212.37	215.99	210.60	208.26
77.50°	156.84	157.44	154.00	159.40	157.86	158.65	157.35	160.76	160.36	163.59	164.82	161.59	165.61	159.28	163.44	161.31	156.84
80.00°	108.82	106.88	105.83	108.36	108.54	109.62	110.55	111.33	111.86	113.08	114.74	112.77	115.49	110.71	114.72	112.91	108.82
82.50°	61.57	63.45	59.88	66.15	64.65	66.91	64.60	68.20	68.33	67.98	70.10	66.22	70.22	65.03	70.40	65.51	61.57
85.00°	32.48	26.69	30.15	26.68	27.20	27.79	34.94	26.88	31.39	27.95	27.78	33.33	30.01	33.99	31.94	32.55	32.48
87.50°	5.72	13.52	10.62	13.26	13.79	11.40	7.34	12.77	10.15	14.03	11.95	11.62	14.34	9.84	10.15	11.85	5.72
90.00°	3.62	3.96	4.35	5.06	4.00	4.62	4.43	3.74	4.85	3.22	3.94	3.03	2.47	3.29	5.14	3.51	3.62
92.50°	2.76	3.24	4.20	3.99	3.50	3.08	2.76	2.72	2.58	2.86	2.83	2.49	2.78	2.61	2.96	3.17	2.76
95.00°	2.68	2.96	4.28	3.68	3.22	3.08	3.08	2.48	2.63	2.57	3.04	2.38	2.87	2.55	2.92	3.35	2.68
97.50°	2.64	3.49	4.43	4.21	3.35	3.21	3.36	2.95	2.80	2.41	2.63	2.45	2.47	2.64	3.07	3.78	2.64
100.00°	2.89	3.67	4.03	4.76	3.40	3.36	3.35	3.38	3.03	2.18	2.15	2.56	2.36	2.85	3.35	3.48	2.89
102.50°	3.08	3.39	3.51	5.21	3.36	3.40	3.42	2.73	2.90	1.81	2.71	2.67	2.72	3.07	3.51	2.93	3.08
105.00°	2.86	2.99	3.50	5.47	3.18	3.42	3.91	2.12	2.62	1.83	3.24	3.67	2.83	3.30	3.62	2.60	2.86

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%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	9114	9114	9114	9114	8899	8899	8899	8899	8499	8499	8499	8134	8134	8134	7798	7798	7640
	1	8532	8253	8003	7778	8332	8082	7856	7651	7761	7578	7409	7467	7319	7183	7195	7079	6932
	2	7951	7463	7059	6720	7765	7323	6954	6640	7061	6753	6488	6820	6565	6342	6596	6388	6203
	3	7415	6779	6288	5896	7243	6665	6211	5845	6448	6062	5744	6248	5922	5648	6062	5789	5555
	4	6926	6191	5653	5242	6769	6096	5595	5207	5915	5482	5139	5748	5375	5073	5592	5273	5009
	5	6483	5682	5122	4709	6339	5602	5077	4685	5450	4990	4638	5309	4907	4591	5178	4827	4546
	6	6080	5238	4673	4267	5950	5170	4637	4250	5042	4569	4216	4923	4503	4182	4811	4440	4150
	7	5714	4849	4287	3894	5596	4791	4259	3881	4682	4204	3856	4580	4151	3832	4484	4100	3807
	8	5382	4505	3954	3575	5275	4456	3931	3565	4362	3886	3546	4274	3843	3528	4191	3801	3509
	9	5080	4201	3662	3299	4982	4158	3644	3291	4077	3607	3277	4001	3571	3263	3929	3537	3249
	10	4804	3930	3406	3058	4716	3893	3391	3052	3822	3360	3041	3756	3330	3030	3693	3301	3019

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	178.1 fc	7.9 ft
6.5 ft	127.5 fc	9.3 ft
7.5 ft	95.8 fc	10.8 ft
8.0 ft	84.2 fc	11.5 ft
10.0 ft	53.9 fc	14.4 ft
12.0 ft	37.4 fc	17.2 ft
14.0 ft	27.5 fc	20.1 ft
16.0 ft	21.0 fc	23.0 ft
20.0 ft	13.5 fc	28.7 ft
24.0 ft	9.4 fc	34.5 ft
28.0 ft	6.9 fc	40.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	41751	41751	41751
45.00°	10654	10231	10842
55.00°	9020	8882	8942
65.00°	7870	7706	7798
75.00°	6234	6131	6229
85.00°	2887	2680	2418

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	16.7	18.0	17.1	18.3	18.7	16.8	18.1	17.2	18.4	18.7
	3H	18.3	19.4	18.7	19.8	20.2	18.4	19.5	18.7	19.8	20.2
	4H	18.8	19.9	19.2	20.3	20.6	18.9	20.0	19.3	20.3	20.7
	6H	19.1	20.1	19.6	20.5	20.9	19.2	20.2	19.6	20.6	21.0
	8H	19.2	20.1	19.6	20.5	20.9	19.3	20.2	19.7	20.6	21.0
	12H	19.2	20.1	19.6	20.5	20.9	19.3	20.2	19.7	20.6	21.0
4H	2H	17.3	18.3	17.7	18.7	19.1	17.3	18.4	17.7	18.7	19.1
	3H	19.0	19.9	19.4	20.3	20.7	19.1	20.0	19.5	20.4	20.8
	4H	19.7	20.4	20.1	20.9	21.3	19.7	20.5	20.2	20.9	21.4
	6H	20.1	20.7	20.5	21.2	21.7	20.1	20.8	20.6	21.3	21.7
	8H	20.1	20.8	20.6	21.2	21.7	20.2	20.8	20.7	21.3	21.8
	12H	20.2	20.7	20.6	21.2	21.7	20.2	20.8	20.7	21.3	21.8
8H	4H	19.9	20.5	20.3	20.9	21.4	19.9	20.5	20.4	21.0	21.5
	6H	20.3	20.9	20.9	21.4	21.9	20.4	20.9	20.9	21.4	21.9
	8H	20.5	20.9	21.0	21.4	21.9	20.5	21.0	21.1	21.5	22.0
	12H	20.5	20.9	21.0	21.4	22.0	20.6	21.0	21.1	21.5	22.1
12H	4H	19.8	20.4	20.3	20.9	21.4	19.9	20.5	20.4	21.0	21.4
	6H	20.4	20.8	20.9	21.3	21.8	20.4	20.9	21.0	21.4	21.9
	8H	20.5	20.9	21.0	21.4	22.0	20.6	21.0	21.1	21.5	22.1

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0