Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

ME0713DGV 15L35 KEX TF1 MWI

Nom 7" diam x 13" H, Mini Espresso Direct

Test Number

SP-00718_4

Test Date

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

Summary of Results

Power

Input Watts	10 W

Lumen Output

Output Lumens	854
Efficacy	85.39 lm/W

Luminous Dimensions

0° - 180° Size	-0.63
90° - 270° Size	-0.63
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.18
Two luminaires, plane 90°	1.17
Four luminaires	1.06

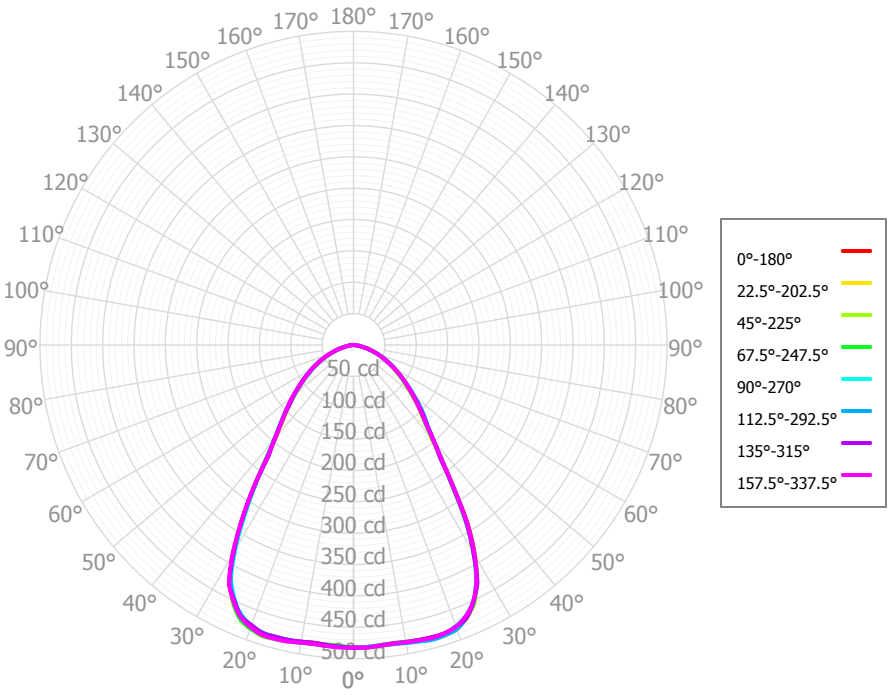
Full Beam Angle

0° - 180°	74°
90° - 270°	73°

IES File Header Contents

Keyword	Value
TEST	SP-00718_4
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	3/19/2019
UPDATE	5/28/2019
LUMCAT	ME0713DGV 15L35 KEX TF1 MWI
LUMINAIRE	Nom 7" diam x 13" H, Mini Espresso Direct
LAMPCAT	N/A
LAMP	N/A
OTHER	Beam Angle: 76 degrees
OTHER	CCT Output Multipliers: 27K x 0.97, 30K x 0.98, 40K x 1.03
OTHER	Total luminaire wattages is approximate
OTHER	This report prepared by Spectrum Lighting

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	46.63	5.46%	90.00° - 100.00°	0.08	0.01%
10.00° - 20.00°	136.75	16.01%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	204.34	23.93%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	174.03	20.38%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	119.88	14.04%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	87.24	10.22%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	55.90	6.55%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	25.02	2.93%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	4.07	0.48%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	853.86	99.99%	0.00° - 180.00°	853.94	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°	482.66	482.66	482.66	482.66	482.66	482.66	482.66	482.66	482.66	482.66	482.66	482.66	482.66	482.66	482.66	482.66	482.66
2.50°	482.52	482.06	483.47	482.30	482.01	481.71	481.67	482.94	481.12	482.22	482.66	480.50	482.52	482.22	482.97	482.82	482.52
5.00°	481.41	481.04	481.41	480.70	481.01	481.08	480.51	482.23	480.09	481.64	481.58	479.90	481.83	481.06	481.24	481.26	481.41
7.50°	480.88	480.95	479.82	480.20	480.61	480.76	479.30	481.25	479.11	481.02	480.44	480.66	480.88	481.36	479.84	480.74	480.88
10.00°	481.34	481.05	481.21	480.61	481.84	480.88	480.37	482.14	480.42	480.87	482.15	482.05	482.10	482.64	480.86	481.46	481.34
12.50°	481.94	482.31	482.69	481.83	482.97	481.55	481.67	484.43	482.93	482.45	484.19	484.13	483.96	484.43	481.82	482.43	481.94
15.00°	482.75	483.81	484.74	483.70	483.80	481.66	481.68	485.19	483.91	483.60	485.33	485.28	484.04	486.55	482.35	483.67	482.75
17.50°	482.11	483.33	485.59	482.39	482.77	481.05	481.57	484.80	484.15	483.23	486.38	485.49	483.61	485.42	482.17	482.28	482.11
20.00°	479.20	482.46	479.83	478.66	477.03	476.24	475.49	479.20	478.69	480.50	480.03	481.25	477.43	482.30	477.90	478.12	479.20
22.50°	470.43	470.27	471.73	468.28	468.00	466.36	468.92	469.93	470.50	470.05	473.04	472.68	469.74	470.60	471.25	468.01	470.43
25.00°	453.00	456.14	451.92	453.10	451.13	449.39	449.80	452.37	451.90	454.53	451.07	453.72	448.12	453.76	451.64	451.76	453.00
27.50°	426.49	423.38	427.44	423.89	426.21	424.29	429.83	429.26	428.57	423.38	427.89	424.81	423.11	423.38	427.78	424.56	426.49
30.00°	387.28	387.55	381.50	384.77	382.51	384.29	382.04	386.42	383.88	385.89	378.41	381.34	376.96	385.34	382.69	386.60	387.28
32.50°	339.43	332.04	333.73	334.06	334.90	328.02	332.77	331.08	330.03	329.39	327.18	324.62	325.84	333.97	335.47	337.57	339.43
35.00°	279.77	273.62	277.83	275.57	278.68	275.97	277.55	278.06	277.51	275.81	275.34	273.77	275.08	275.46	278.50	278.19	279.77
37.50°	231.31	231.92	226.85	231.54	230.20	228.44	222.06	226.50	225.55	230.42	223.47	227.99	224.41	232.53	226.96	231.95	231.31
40.00°	197.44	192.43	195.94	196.72	197.79	194.29	196.50	194.07	194.05	191.93	196.39	195.50	196.64	197.75	199.40	197.71	197.44
42.50°	171.04	171.16	168.06	172.12	170.78	173.76	171.95	172.87	170.61	171.58	170.46	174.27	173.42	175.48	173.84	171.75	171.04
45.00°	153.89	152.17	151.65	153.90	154.70	155.41	154.34	155.57	152.61	152.68	153.80	155.10	155.39	159.42	156.40	152.98	153.89
47.50°	137.18	135.79	135.73	137.57	138.99	139.17	136.87	140.45	136.62	137.49	137.44	137.60	138.35	142.99	139.53	136.66	137.18
50.00°	120.98	119.69	121.63	122.37	123.99	123.96	124.22	125.28	122.18	122.70	123.26	122.22	123.83	126.40	124.76	122.35	120.98
52.50°	107.43	107.20	107.70	108.91	109.88	109.71	111.64	110.10	108.30	108.88	109.13	108.48	109.74	111.96	110.50	109.67	107.43
55.00°	96.92	95.04	94.37	96.44	97.37	97.59	99.38	97.54	96.70	96.18	96.76	95.72	97.48	98.49	98.09	98.31	96.92
57.50°	85.95	84.00	82.31	85.87	86.02	87.37	87.15	86.34	85.88	86.03	84.41	83.69	85.49	86.99	86.19	86.57	85.95
60.00°	74.46	73.07	74.12	76.32	76.67	77.00	76.54	76.18	75.60	76.01	74.67	73.85	75.11	76.34	76.01	74.55	74.46
62.50°	64.72	65.01	65.31	66.82	67.05	66.51	65.95	66.52	65.49	66.29	64.94	65.58	64.97	65.89	66.03	64.58	64.72
65.00°	56.27	56.93	55.35	57.33	57.11	56.66	56.80	57.32	55.56	56.56	55.02	56.38	56.42	55.53	56.45	55.67	56.27
67.50°	46.56	48.80	46.77	47.63	48.92	47.35	47.67	48.33	45.67	46.81	45.13	46.56	48.08	47.43	47.62	47.27	46.56
70.00°	37.67	39.46	39.01	38.92	41.02	38.45	39.19	39.52	37.42	37.93	37.00	38.08	39.11	38.94	39.26	38.97	37.67
72.50°	31.57	30.20	31.48	31.59	31.00	29.87	30.85	30.78	29.64	30.75	29.06	30.45	30.07	29.99	30.52	30.75	31.57
75.00°	23.45	22.99	24.49	24.63	24.23	22.74	23.68	22.79	21.88	23.78	23.09	22.55	23.11	22.91	24.11	22.98	23.45
77.50°	17.51	15.15	17.66	17.38	17.88	16.33	16.83	15.08	14.53	17.09	16.80	14.54	16.31	15.59	17.84	17.08	17.51
80.00°	10.82	9.88	10.96	10.42	12.03	11.32	10.61	10.67	10.44	11.51	9.86	10.63	9.87	11.42	11.33	10.99	10.82
82.50°	6.51	7.19	7.76	5.73	7.67	6.75	7.02	6.66	6.76	6.66	6.29	6.92	5.72	7.13	6.06	6.03	6.51
85.00°	0.00	0.00	0.00	0.00	0.00	2.79	4.17	3.31	3.65	3.16	4.13	3.27	3.17	0.00	0.00	0.00	0.00
87.50°	0.00	0.00	0.00	0.00	0.00	1.56	1.53	1.95	1.92	1.99	2.22	1.51	1.80	0.00	0.00	0.00	0.00
90.00°	0.00	0.00	0.00	0.00	0.00	0.82	1.19	1.38	0.83	1.31	1.17	1.12	1.27	0.00	0.00	0.00	0.00
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.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	1,017	1,017	1,017	1,017	993	993	993	993	949	949	949	908	908	908	871	871	871	854
	1	949	917	888	862	927	898	872	848	863	841	822	830	813	797	800	786	774	770
	2	881	824	777	738	860	809	766	729	780	744	713	753	723	697	728	704	682	689
	3	818	744	687	641	799	731	678	636	707	662	625	685	647	614	664	632	604	619
	4	761	675	612	565	743	664	606	561	644	594	554	626	582	547	608	571	540	559
RCR	5	709	616	551	503	693	607	546	500	590	536	495	574	527	490	560	519	486	508
	6	663	565	499	452	648	557	495	450	543	488	447	529	481	443	517	474	440	465
	7	621	520	455	410	607	514	452	408	502	446	406	490	440	403	479	435	401	427
	8	583	481	417	374	571	476	415	373	465	410	371	455	405	369	446	401	367	394
	9	549	447	385	343	538	442	383	342	433	379	341	425	375	339	417	371	338	365
	10	518	417	356	316	508	413	355	316	405	351	314	397	348	313	390	345	312	339

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	16.0 fc	8.2 ft
6.5 ft	11.4 fc	9.7 ft
7.5 ft	8.6 fc	11.2 ft
8.0 ft	7.5 fc	12.0 ft
10.0 ft	4.8 fc	15.0 ft
12.0 ft	3.4 fc	18.0 ft
14.0 ft	2.5 fc	21.0 ft
16.0 ft	1.9 fc	24.0 ft
20.0 ft	1.2 fc	30.0 ft
24.0 ft	0.8 fc	36.0 ft
28.0 ft	0.6 fc	42.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	16,666	16,666	16,666
45.00°	7,515	7,406	7,554
55.00°	5,835	5,681	5,862
65.00°	4,597	4,522	4,666
75.00°	3,128	3,267	3,232
85.00°	0	0	0

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	15.8	17.2	16.2	17.5	17.8	15.8	17.2	16.2	17.5	17.8
	3H	17.1	18.3	17.5	18.7	19.0	17.1	18.4	17.5	18.7	19.1
	4H	17.5	18.6	17.9	19.0	19.3	17.5	18.6	17.9	19.0	19.4
	6H	17.7	18.7	18.1	19.1	19.5	17.7	18.7	18.1	19.1	19.5
	8H	17.7	18.7	18.1	19.1	19.5	17.7	18.7	18.1	19.1	19.5
	12H	17.7	18.6	18.1	19.0	19.4	17.7	18.6	18.1	19.0	19.5
4H	2H	16.3	17.4	16.7	17.8	18.1	16.3	17.4	16.7	17.8	18.2
	3H	17.7	18.7	18.1	19.1	19.5	17.8	18.7	18.2	19.1	19.5
	4H	18.2	19.0	18.6	19.4	19.9	18.2	19.0	18.6	19.4	19.9
	6H	18.4	19.2	18.9	19.6	20.1	18.4	19.2	18.9	19.6	20.1
	8H	18.5	19.1	18.9	19.6	20.1	18.5	19.1	18.9	19.6	20.1
	12H	18.4	19.0	18.9	19.5	20.0	18.5	19.1	18.9	19.5	20.0
8H	4H	18.3	19.0	18.8	19.4	19.9	18.3	19.0	18.8	19.4	19.9
	6H	18.6	19.2	19.1	19.7	20.1	18.6	19.2	19.1	19.6	20.1
	8H	18.7	19.2	19.2	19.7	20.2	18.7	19.2	19.2	19.7	20.2
	12H	18.7	19.1	19.2	19.6	20.2	18.7	19.1	19.2	19.6	20.2
12H	4H	18.3	18.9	18.8	19.4	19.9	18.3	18.9	18.8	19.4	19.8
	6H	18.6	19.1	19.1	19.6	20.1	18.6	19.1	19.1	19.6	20.1
	8H	18.7	19.1	19.2	19.6	20.2	18.7	19.1	19.2	19.6	20.2

Corrected UGR values based on total output lumens

SHR = 1.0