

LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P518224

Luminaire Tested: HVL8-8-LD4-2LO-35-UNV-C-EDD

Issue Date: 4/27/2021

Tested By:

Approved By:



NVLAP Lab Code: 200050-0

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Test Information

Test Method: LM-79-2019
Report Number: P518224
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2LO-35-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9068.0 lumens
Efficiency: N/A
Efficacy: 98.4 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

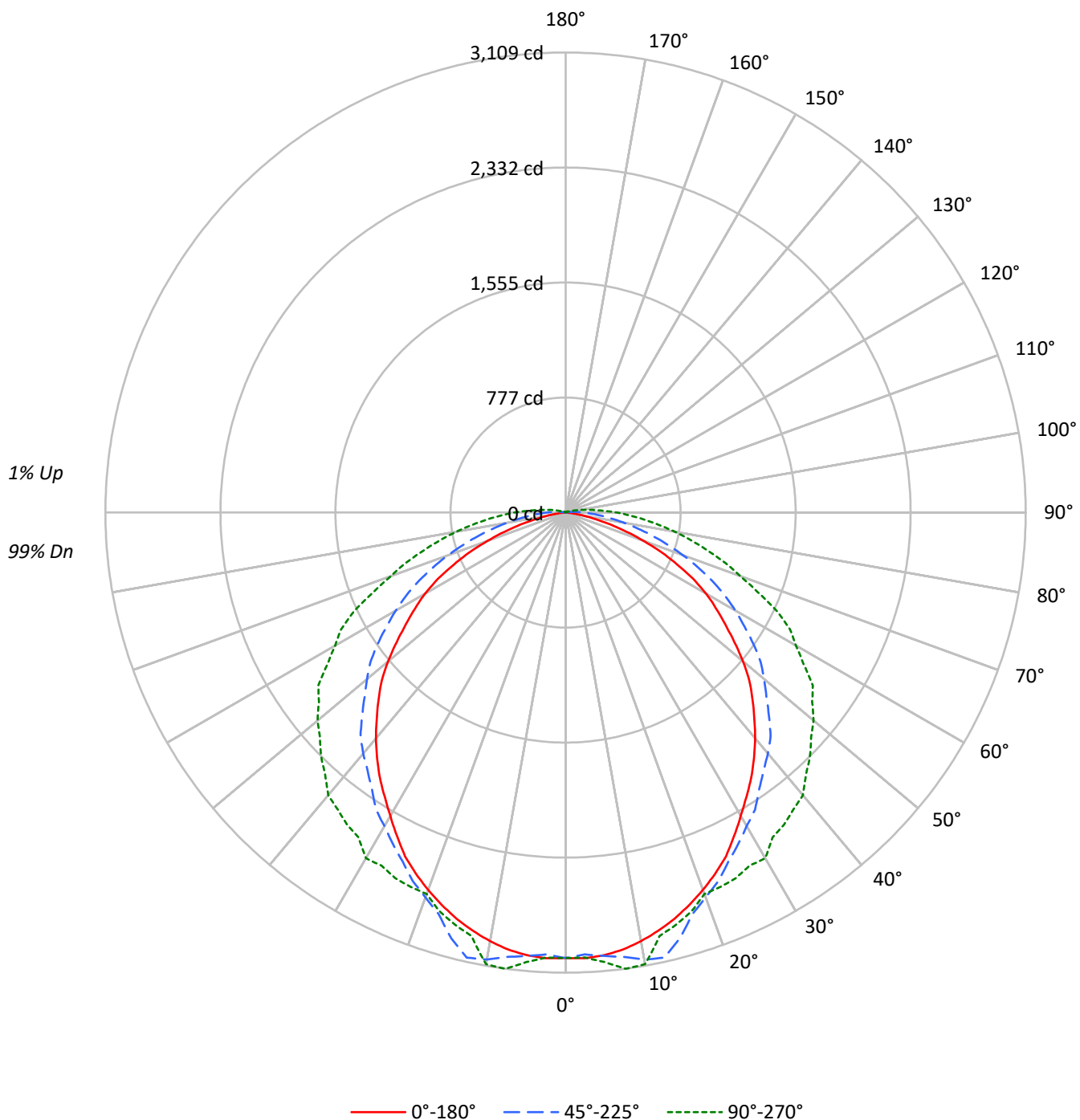
Input Watts (W): 92.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	P3	10/30/2015	4/30/2016
Power Meter	IN0214	1/12/2016	1/12/2017
AC Power Source	IN0062	1/12/2016	1/12/2017
DC Power Supply	--	--	--
Room Thermometer	IN0145	1/13/2016	1/13/2017

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	103	98	94	105	100	96	92	96	92	89		91	89	86		87
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	51		62	56	51		60
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		54
6	69	55	46	39	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6075	6075	6075
5°	6072	5992	6045
10°	6003	6080	6083
15°	5905	5923	5646
20°	5784	5555	5399
25°	5654	5321	5433
30°	5452	5134	5493
35°	5311	4957	5396
40°	5160	4825	5429
45°	4997	4655	5331
50°	4798	4475	5291
55°	4498	4283	5288
60°	4276	4016	5062
65°	3809	3697	4901
70°	3142	3279	4395
75°	2281	2769	4012
80°	1319	2255	3601
85°	527	1723	3173

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 5331 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	289.3	3.2
10°-20°	823.9	9.1
20°-30°	1225.8	13.5
30°-40°	1473.4	16.2
40°-50°	1550.9	17.1
50°-60°	1439.0	15.9
60°-70°	1137.8	12.5
70°-80°	695.0	7.7
80°-90°	302.8	3.3
90°-100°	94.3	1.0
100°-110°	21.2	0.2
110°-120°	8.5	0.1
120°-130°	4.8	0.1
130°-140°	1.3	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2339.0	25.8
0°-40°	3812.4	42.0
0°-60°	6802.3	75.0
0°-90°	8938.0	98.6
90°-120°	123.9	1.4
90°-150°	130.0	1.4
90°-180°	130.0	1.4
0°-180°	9068.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3010	3010	3010	3010	3010	
5°	3003	2997	3007	3041	3049	285
15°	2842	2951	2980	2881	2883	801
25°	2564	2727	2603	2681	2724	1177
35°	2187	2248	2282	2489	2574	1367
45°	1787	1795	1943	2251	2335	1378
55°	1316	1338	1550	1889	2039	1183
65°	833	860	1092	1445	1576	825
75°	315	418	609	936	995	344
85°	28	98	237	460	529	44
90°	1	29	124	292	344	1
95°	1	7	55	160	196	0
105°	1	4	11	31	44	1
115°	1	2	9	14	15	1
125°	1	1	4	9	13	1
135°	1	1	1	3	4	1
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3010.1	3010.1	3010.1	3010.1	3010.1
2.5°	3013.8	3005.8	2989.2	3005.2	3009.5
5°	3002.7	2996.6	3007.0	3040.7	3049.3
7.5°	2977.6	3000.9	3028.5	3089.8	3109.4
10°	2940.2	2984.3	3067.1	3119.2	3099.0
12.5°	2894.8	2969.6	3080.6	2978.8	2931.6
15°	2842.1	2951.2	2980.0	2881.3	2883.2
17.5°	2780.1	2935.9	2847.0	2844.5	2826.7
20°	2713.3	2884.4	2766.7	2761.7	2742.7
22.5°	2641.6	2816.3	2695.5	2685.7	2737.2
25°	2563.7	2727.4	2602.9	2680.8	2724.3
27.5°	2466.2	2610.9	2525.7	2636.0	2690.6
30°	2367.5	2490.7	2446.6	2600.5	2697.4
32.5°	2274.9	2365.0	2381.6	2587.0	2602.9
35°	2187.2	2247.9	2281.6	2488.9	2573.5
37.5°	2090.9	2107.5	2197.0	2447.8	2529.4
40°	1992.8	1982.4	2125.9	2380.4	2493.2
42.5°	1887.4	1883.7	2050.5	2346.6	2403.0
45°	1787.4	1795.4	1943.2	2251.0	2335.0
47.5°	1685.0	1695.4	1841.4	2146.1	2250.4
50°	1566.1	1579.5	1750.6	2052.9	2187.2
52.5°	1437.3	1463.0	1662.3	1964.6	2100.1
55°	1316.5	1338.0	1550.1	1889.2	2039.4
57.5°	1206.1	1219.0	1434.2	1794.2	1907.6
60°	1097.6	1100.7	1325.1	1688.7	1797.2
62.5°	973.1	978.6	1212.9	1564.2	1709.5
65°	833.3	859.7	1092.1	1445.3	1576.5
67.5°	702.7	748.7	968.8	1336.1	1404.8
70°	562.9	640.8	848.0	1208.0	1256.4
72.5°	434.7	526.1	724.2	1064.5	1132.5
75°	315.2	417.6	608.9	935.7	994.6
77.5°	212.2	316.4	501.0	793.5	871.3
80°	126.9	231.2	404.7	661.6	749.3
82.5°	65.0	155.1	313.9	554.9	633.4
85°	28.2	98.1	237.3	460.5	528.6
87.5°	8.0	55.8	174.8	372.2	429.8
90°	0.6	29.4	124.5	291.9	344.0
92.5°	0.6	14.1	87.7	220.7	260.6
95°	0.6	7.4	54.6	160.0	195.6
97.5°	0.6	4.3	33.1	113.4	143.5
100°	0.6	3.7	19.6	75.4	102.4
102.5°	0.6	4.3	13.5	47.8	66.8
105°	0.6	4.3	11.0	31.3	44.1
107.5°	1.2	4.3	9.8	23.3	30.7
110°	0.6	3.7	10.4	17.8	23.9

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CATALOG NUMBER: HVL8-8-LD4-2LO-35-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	3.1	9.8	14.7	17.8
115°	0.6	2.5	8.6	14.1	14.7
117.5°	1.2	1.8	6.7	14.1	14.7
120°	1.2	1.2	5.5	13.5	15.3
122.5°	1.2	1.2	4.3	12.3	14.7
125°	0.6	1.2	3.7	9.2	12.9
127.5°	1.2	1.2	3.1	7.4	9.8
130°	1.2	1.2	2.5	5.5	7.4
132.5°	1.2	1.2	1.8	4.3	5.5
135°	1.2	1.2	1.2	3.1	4.3
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)