

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: P518228

Luminaire Tested: HVL8-8-LD4-2LO-40-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: P518228
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2LO-40-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9197.0 lumens
Efficiency: N/A
Efficacy: 99.8 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

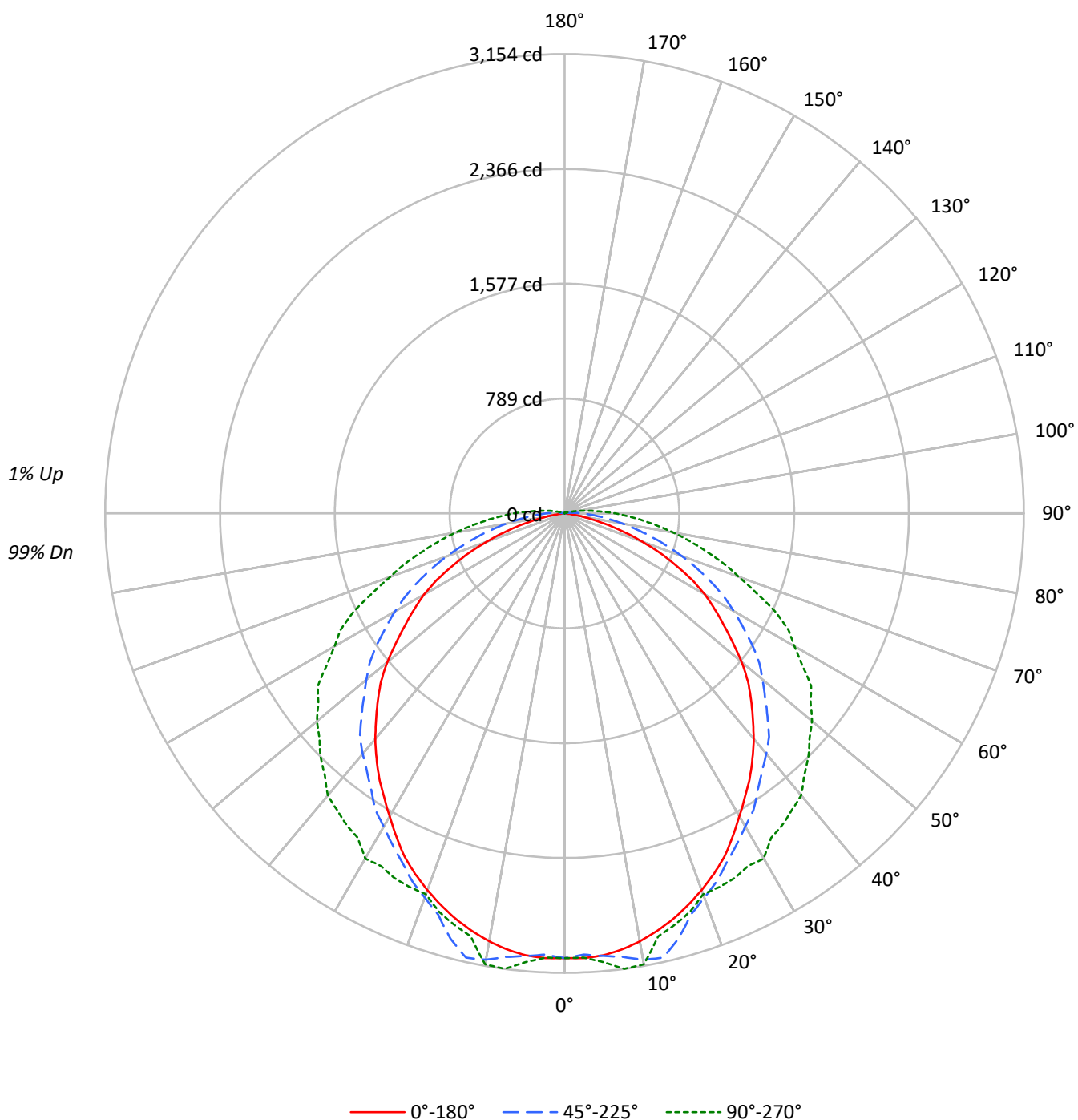
Input Watts (W): 92.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	6161	6161	6161
5°	6159	6077	6131
10°	6089	6167	6169
15°	5989	6007	5726
20°	5866	5634	5476
25°	5735	5397	5511
30°	5529	5207	5571
35°	5387	5027	5473
40°	5234	4894	5507
45°	5069	4721	5407
50°	4866	4539	5366
55°	4562	4344	5363
60°	4337	4073	5134
65°	3864	3749	4970
70°	3186	3325	4457
75°	2313	2808	4069
80°	1338	2287	3653
85°	535	1748	3218

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 5407 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	293.4	3.2
10°-20°	835.6	9.1
20°-30°	1243.3	13.5
30°-40°	1494.4	16.2
40°-50°	1572.9	17.1
50°-60°	1459.5	15.9
60°-70°	1154.0	12.5
70°-80°	704.9	7.7
80°-90°	307.1	3.3
90°-100°	95.6	1.0
100°-110°	21.5	0.2
110°-120°	8.6	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°	2372.3	25.8
0°-40°	3866.7	42.0
0°-60°	6899.1	75.0
0°-90°	9065.1	98.6
90°-120°	125.7	1.4
90°-150°	131.9	1.4
90°-180°	132.0	1.4
0°-180°	9197.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3053	3053	3053	3053	3053	
5°	3045	3039	3050	3084	3093	289
15°	2882	2993	3022	2922	2924	812
25°	2600	2766	2640	2719	2763	1194
35°	2218	2280	2314	2524	2610	1386
45°	1813	1821	1971	2283	2368	1397
55°	1335	1357	1572	1916	2068	1200
65°	845	872	1108	1466	1599	837
75°	320	424	618	949	1009	349
85°	29	100	241	467	536	44
90°	1	30	126	296	349	1
95°	1	8	55	162	198	0
105°	1	4	11	32	45	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

TEST NUMBER: P518228

CATALOG NUMBER: HVL8-8-LD4-2LO-40-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3052.9	3052.9	3052.9	3052.9	3052.9
2.5°	3056.6	3048.6	3031.8	3047.9	3052.3
5°	3045.4	3039.2	3049.8	3084.0	3092.7
7.5°	3019.9	3043.6	3071.6	3133.8	3153.7
10°	2982.0	3026.8	3110.7	3163.6	3143.1
12.5°	2936.0	3011.9	3124.4	3021.2	2973.3
15°	2882.5	2993.2	3022.4	2922.3	2924.2
17.5°	2819.7	2977.7	2887.5	2885.0	2867.0
20°	2751.9	2925.4	2806.0	2801.0	2781.8
22.5°	2679.1	2856.4	2733.9	2723.9	2776.2
25°	2600.2	2766.2	2640.0	2718.9	2763.1
27.5°	2501.3	2648.0	2561.6	2673.5	2728.9
30°	2401.2	2526.2	2481.4	2637.5	2735.7
32.5°	2307.2	2398.7	2415.5	2623.8	2640.0
35°	2218.3	2279.9	2314.1	2524.3	2610.1
37.5°	2120.7	2137.5	2228.3	2482.6	2565.3
40°	2021.2	2010.6	2156.1	2414.2	2528.6
42.5°	1914.2	1910.5	2079.6	2380.0	2437.2
45°	1812.8	1820.9	1970.8	2283.0	2368.2
47.5°	1709.0	1719.6	1867.6	2176.6	2282.4
50°	1588.3	1602.0	1775.5	2082.1	2218.3
52.5°	1457.7	1483.9	1686.0	1992.6	2130.0
55°	1335.2	1357.0	1572.2	1916.1	2068.4
57.5°	1223.3	1236.3	1454.6	1819.7	1934.7
60°	1113.2	1116.3	1343.9	1712.7	1822.8
62.5°	987.0	992.6	1230.1	1586.5	1733.9
65°	845.2	871.9	1107.6	1465.8	1598.9
67.5°	712.7	759.3	982.6	1355.1	1424.8
70°	570.9	649.9	860.1	1225.1	1274.3
72.5°	440.9	533.6	734.5	1079.6	1148.6
75°	319.7	423.5	617.5	949.0	1008.7
77.5°	215.2	320.9	508.1	804.7	883.7
80°	128.7	234.5	410.5	671.0	760.0
82.5°	65.9	157.3	318.4	562.8	642.4
85°	28.6	99.5	240.7	467.0	536.1
87.5°	8.1	56.6	177.2	377.5	436.0
90°	0.6	29.9	126.2	296.0	348.9
92.5°	0.6	14.3	88.9	223.9	264.3
95°	0.6	7.5	55.3	162.3	198.4
97.5°	0.6	4.4	33.6	115.1	145.5
100°	0.6	3.7	19.9	76.5	103.9
102.5°	0.6	4.4	13.7	48.5	67.8
105°	0.6	4.4	11.2	31.7	44.8
107.5°	1.2	4.4	10.0	23.6	31.1
110°	0.6	3.7	10.6	18.0	24.3

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CATALOG NUMBER: HVL8-8-LD4-2LO-40-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	3.1	10.0	14.9	18.0
115°	0.6	2.5	8.7	14.3	14.9
117.5°	1.2	1.9	6.8	14.3	14.9
120°	1.2	1.2	5.6	13.7	15.5
122.5°	1.2	1.2	4.4	12.4	14.9
125°	0.6	1.2	3.7	9.3	13.1
127.5°	1.2	1.2	3.1	7.5	10.0
130°	1.2	1.2	2.5	5.6	7.5
132.5°	1.2	1.2	1.9	4.4	5.6
135°	1.2	1.2	1.2	3.1	4.4
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)