

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: P518170

Luminaire Tested: HVL8-8-LD4-1HI-50-UNV-O-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: P518170
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1HI-50-UNV-O-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

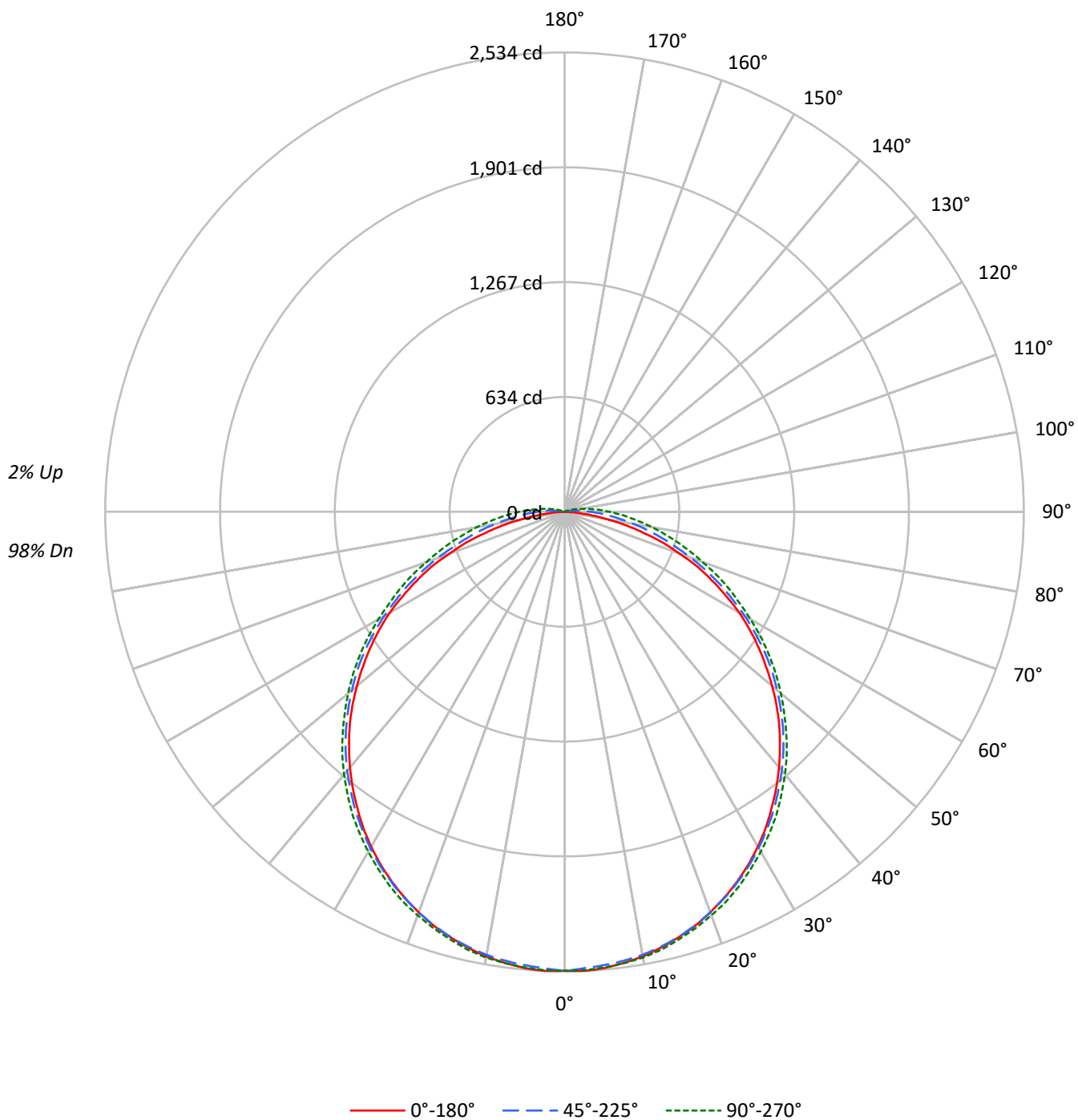
Lumens per Lamp: N/A
Luminaire Lumens: 7654.0 lumens
Efficiency: N/A
Efficacy: 89.0 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

Input Watts (W): 86
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	102	98	94	105	100	96	92	95	92	89		91	88	86		87
2	98	89	82	76	95	87	80	75	83	77	73		79	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	52		62	56	51		60
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		54
6	69	55	46	40	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°	5109	5109	5109
5°	5108	5001	5000
10°	5084	4918	4900
15°	5049	4825	4780
20°	5012	4720	4663
25°	4966	4611	4544
30°	4911	4496	4409
35°	4840	4368	4275
40°	4767	4233	4120
45°	4689	4086	3951
50°	4584	3914	3771
55°	4472	3726	3571
60°	4338	3480	3338
65°	4111	3204	3107
70°	3777	2877	2839
75°	3294	2518	2595
80°	2556	2168	2372
85°	1474	1815	2160

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4689 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	239.6	3.1
10°-20°	687.2	9.0
20°-30°	1042.6	13.6
30°-40°	1260.7	16.5
40°-50°	1315.5	17.2
50°-60°	1202.7	15.7
60°-70°	937.6	12.2
70°-80°	586.5	7.7
80°-90°	266.4	3.5
90°-100°	89.3	1.2
100°-110°	22.4	0.3
110°-120°	3.5	0.0
120°-130°	0.0	0.0
130°-140°	0.0	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°	1969.4	25.7
0°-40°	3230.1	42.2
0°-60°	5748.3	75.1
0°-90°	7538.8	98.5
90°-120°	115.2	1.5
90°-150°	115.2	1.5
90°-180°	115.0	1.5
0°-180°	7654.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2532	2532	2532	2532	2532	
5°	2526	2521	2510	2522	2522	240
15°	2430	2434	2428	2441	2441	686
25°	2252	2253	2256	2275	2278	1038
35°	1993	2002	2010	2031	2039	1248
45°	1677	1692	1706	1722	1731	1292
55°	1309	1324	1349	1368	1377	1169
65°	899	915	946	984	1000	890
75°	455	483	554	620	643	485
85°	79	146	250	331	360	100
90°	1	54	147	221	248	3
95°	1	14	76	138	160	0
105°	1	2	12	37	50	1
115°	2	2	2	7	10	1
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
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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CATALOG NUMBER: HVL8-8-LD4-1HI-50-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2531.5	2531.5	2531.5	2531.5	2531.5
2.5°	2534.5	2530.9	2519.5	2530.9	2530.3
5°	2526.1	2521.3	2510.0	2521.9	2521.9
7.5°	2509.4	2507.6	2497.5	2511.2	2511.2
10°	2489.7	2489.1	2480.8	2495.7	2496.3
12.5°	2462.3	2464.6	2456.9	2471.2	2473.0
15°	2430.0	2434.2	2427.6	2441.4	2440.8
17.5°	2394.8	2397.2	2392.4	2408.0	2407.4
20°	2351.3	2354.2	2350.7	2366.8	2368.6
22.5°	2302.9	2307.1	2306.5	2323.2	2328.0
25°	2251.6	2253.4	2255.8	2274.9	2278.5
27.5°	2194.9	2197.9	2202.1	2219.4	2223.0
30°	2132.8	2137.6	2142.4	2160.3	2165.1
32.5°	2067.2	2072.0	2077.9	2101.2	2103.6
35°	1993.2	2002.1	2010.5	2030.8	2039.1
37.5°	1919.2	1930.5	1938.3	1959.8	1966.3
40°	1841.0	1852.4	1864.9	1887.6	1891.7
42.5°	1759.3	1772.4	1787.3	1807.6	1814.8
45°	1676.9	1691.8	1705.6	1722.3	1730.6
47.5°	1588.0	1602.9	1619.6	1638.7	1644.1
50°	1496.1	1513.4	1531.3	1549.2	1558.8
52.5°	1401.8	1422.7	1443.0	1462.1	1471.0
55°	1308.7	1324.2	1348.7	1368.4	1377.3
57.5°	1212.0	1225.2	1247.2	1279.5	1284.2
60°	1113.6	1125.5	1148.2	1174.4	1185.2
62.5°	1005.0	1021.1	1044.9	1078.4	1087.9
65°	899.3	914.8	946.5	984.1	999.6
67.5°	797.3	802.7	843.2	882.6	907.7
70°	676.7	697.0	744.2	792.5	811.6
72.5°	572.9	593.2	645.1	701.8	725.7
75°	455.3	483.4	553.8	620.0	643.3
77.5°	352.1	383.1	470.3	537.1	563.9
80°	245.9	294.2	389.1	464.3	493.5
82.5°	154.6	214.2	315.7	394.5	420.1
85°	78.8	145.6	250.0	330.6	359.8
87.5°	20.9	94.3	194.5	271.5	301.4
90°	0.6	54.3	147.4	221.4	248.3
92.5°	0.6	30.4	109.8	176.0	203.5
95°	0.6	14.3	76.4	138.4	159.9
97.5°	0.6	6.0	52.5	104.4	125.9
100°	0.6	3.0	33.4	75.8	94.3
102.5°	1.2	1.8	20.9	54.3	69.2
105°	1.2	1.8	12.5	37.0	49.5
107.5°	1.2	1.8	7.2	25.1	34.0
110°	1.8	1.8	4.2	15.5	22.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.8	1.8	2.4	10.1	14.9
115°	1.8	1.8	2.4	6.6	9.5
117.5°	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
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)