

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: P518199

Luminaire Tested: HVL8-8-LD4-1STD-50-UNV-C-EDD-90

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: P518199
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1STD-50-UNV-C-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7550.0 lumens
Efficiency: N/A
Efficacy: 115.8 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

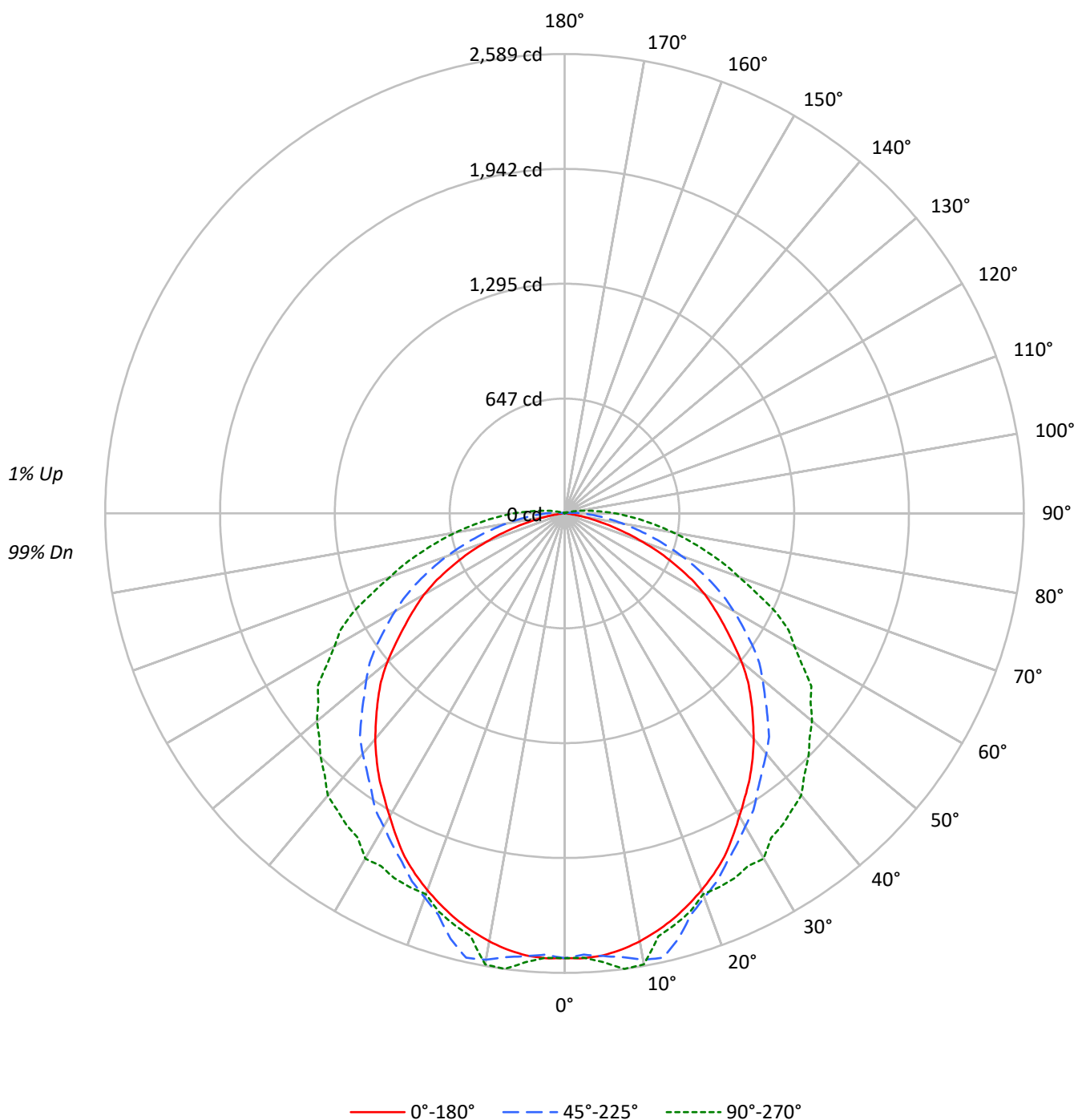
Input Watts (W): 65.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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				0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		0
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		99
1	108	103	98	94	105	100	96	92	96	92	89		91	89	86		81
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		56
4	81	69	60	53	79	67	59	52	65	57	51		62	56	51		47
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	46	39	52	45	39		50	44	38		36
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		32
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		28
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		25
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5058	5058	5058
5°	5056	4989	5034
10°	4998	5062	5064
15°	4917	4931	4701
20°	4815	4625	4495
25°	4708	4430	4524
30°	4539	4274	4573
35°	4422	4127	4493
40°	4296	4018	4520
45°	4161	3875	4439
50°	3995	3726	4405
55°	3745	3566	4403
60°	3560	3344	4215
65°	3172	3078	4080
70°	2616	2730	3659
75°	1899	2305	3340
80°	1099	1877	2999
85°	440	1435	2642

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 4439 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	240.9	3.2
10°-20°	685.9	9.1
20°-30°	1020.6	13.5
30°-40°	1226.8	16.2
40°-50°	1291.3	17.1
50°-60°	1198.1	15.9
60°-70°	947.3	12.5
70°-80°	578.7	7.7
80°-90°	252.1	3.3
90°-100°	78.5	1.0
100°-110°	17.6	0.2
110°-120°	7.1	0.1
120°-130°	4.0	0.1
130°-140°	1.1	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°	1947.4	25.8
0°-40°	3174.2	42.0
0°-60°	5663.6	75.0
0°-90°	7441.7	98.6
90°-120°	103.2	1.4
90°-150°	108.3	1.4
90°-180°	108.0	1.4
0°-180°	7550.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2506	2506	2506	2506	2506	
5°	2500	2495	2504	2532	2539	237
15°	2366	2457	2481	2399	2400	667
25°	2134	2271	2167	2232	2268	980
35°	1821	1872	1900	2072	2143	1138
45°	1488	1495	1618	1874	1944	1147
55°	1096	1114	1291	1573	1698	985
65°	694	716	909	1203	1313	687
75°	262	348	507	779	828	286
85°	24	82	198	383	440	36
90°	0	24	104	243	286	1
95°	0	6	45	133	163	0
105°	0	4	9	26	37	1
115°	0	2	7	12	12	1
125°	0	1	3	8	11	1
135°	1	1	1	3	4	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-LD4-1STD-50-UNV-C-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2506.2	2506.2	2506.2	2506.2	2506.2
2.5°	2509.3	2502.6	2488.8	2502.1	2505.7
5°	2500.1	2495.0	2503.6	2531.7	2538.9
7.5°	2479.1	2498.5	2521.5	2572.6	2588.9
10°	2448.0	2484.7	2553.7	2597.1	2580.2
12.5°	2410.2	2472.5	2564.9	2480.2	2440.8
15°	2366.3	2457.2	2481.2	2399.0	2400.5
17.5°	2314.7	2444.4	2370.4	2368.3	2353.5
20°	2259.1	2401.5	2303.5	2299.4	2283.6
22.5°	2199.4	2344.9	2244.3	2236.1	2279.0
25°	2134.5	2270.8	2167.2	2232.0	2268.3
27.5°	2053.3	2173.8	2102.9	2194.8	2240.2
30°	1971.2	2073.8	2037.0	2165.2	2245.8
32.5°	1894.1	1969.1	1982.9	2153.9	2167.2
35°	1821.1	1871.6	1899.7	2072.2	2142.7
37.5°	1740.9	1754.7	1829.2	2038.0	2105.9
40°	1659.2	1650.5	1770.0	1981.9	2075.8
42.5°	1571.4	1568.3	1707.2	1953.8	2000.8
45°	1488.2	1494.8	1617.9	1874.2	1944.1
47.5°	1402.9	1411.6	1533.1	1786.9	1873.6
50°	1303.9	1315.1	1457.6	1709.3	1821.1
52.5°	1196.7	1218.1	1384.0	1635.7	1748.6
55°	1096.1	1114.0	1290.6	1572.9	1698.0
57.5°	1004.2	1014.9	1194.1	1493.8	1588.3
60°	913.8	916.4	1103.3	1406.0	1496.4
62.5°	810.2	814.8	1009.8	1302.4	1423.4
65°	693.8	715.8	909.3	1203.3	1312.6
67.5°	585.1	623.4	806.6	1112.4	1169.6
70°	468.7	533.5	706.1	1005.7	1046.1
72.5°	362.0	438.0	602.9	886.3	942.9
75°	262.4	347.7	507.0	779.1	828.1
77.5°	176.6	263.4	417.1	660.6	725.5
80°	105.7	192.5	336.9	550.9	623.9
82.5°	54.1	129.2	261.4	462.0	527.4
85°	23.5	81.7	197.6	383.4	440.1
87.5°	6.6	46.5	145.5	309.9	357.9
90°	0.5	24.5	103.6	243.0	286.4
92.5°	0.5	11.7	73.0	183.8	217.0
95°	0.5	6.1	45.4	133.2	162.9
97.5°	0.5	3.6	27.6	94.4	119.5
100°	0.5	3.1	16.3	62.8	85.3
102.5°	0.5	3.6	11.2	39.8	55.6
105°	0.5	3.6	9.2	26.0	36.8
107.5°	1.0	3.6	8.2	19.4	25.5
110°	0.5	3.1	8.7	14.8	19.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	2.6	8.2	12.3	14.8
115°	0.5	2.0	7.1	11.7	12.3
117.5°	1.0	1.5	5.6	11.7	12.3
120°	1.0	1.0	4.6	11.2	12.8
122.5°	1.0	1.0	3.6	10.2	12.3
125°	0.5	1.0	3.1	7.7	10.7
127.5°	1.0	1.0	2.6	6.1	8.2
130°	1.0	1.0	2.0	4.6	6.1
132.5°	1.0	1.0	1.5	3.6	4.6
135°	1.0	1.0	1.0	2.6	3.6
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)