

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: P518216

Luminaire Tested: HVL8-8-LD4-2HI-50-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: P518216
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2HI-50-UNV-C-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: 16053.0 lumens
Efficiency: N/A
Efficacy: 93.2 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

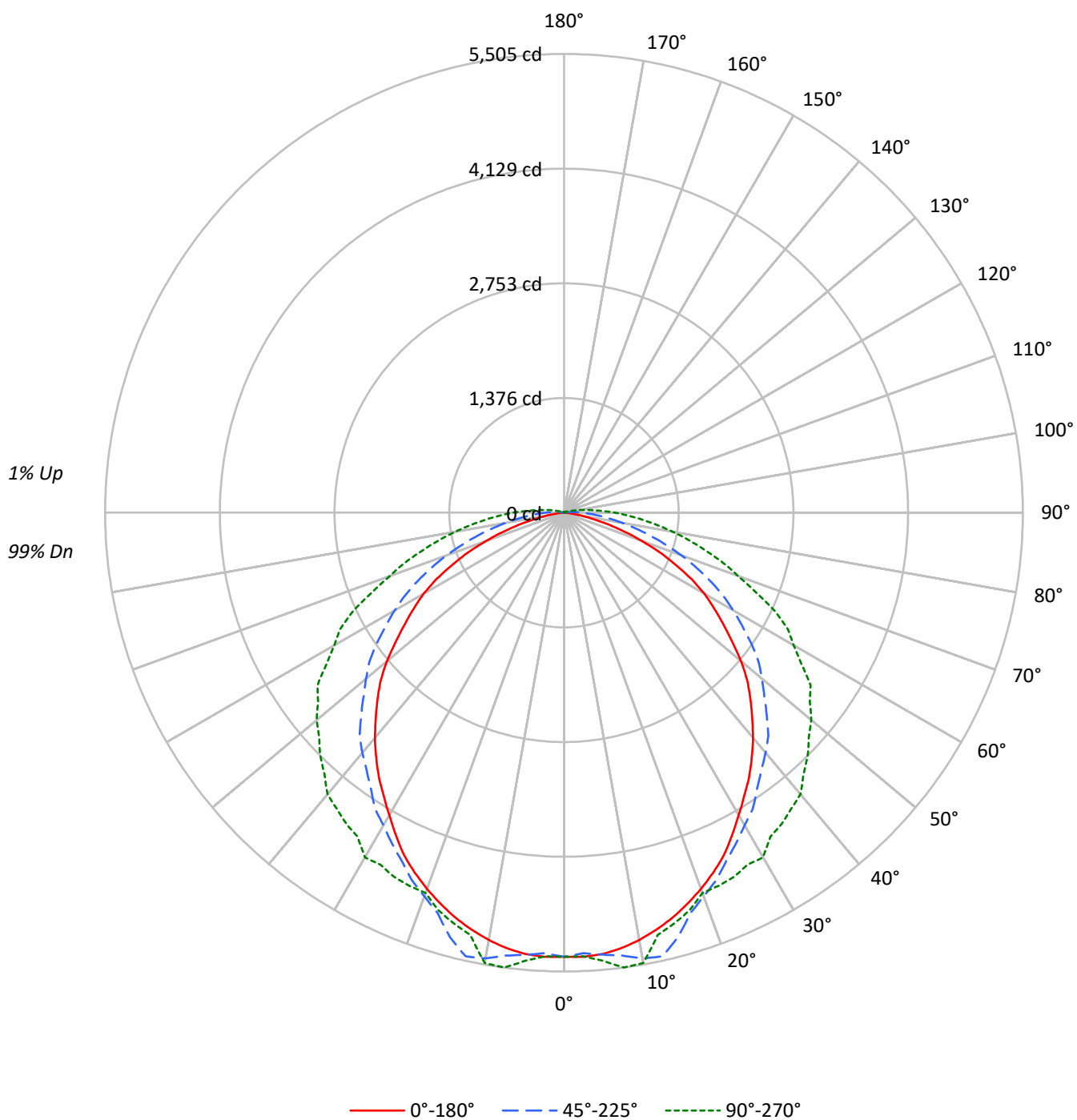
Input Watts (W): 172.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101			99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	76	72	69			67
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58			56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50			47
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	39	67	54	46	39	52	45	39	50	44	38	49	43	38			36
7	64	50	41	35	62	49	41	35	47	40	34	46	39	34	44	38	34			32
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	41	35	30			28
9	55	42	34	28	54	41	33	28	40	33	28	39	32	27	38	32	27			25
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25			23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10755	10755	10755
5°	10750	10607	10702
10°	10628	10764	10768
15°	10454	10485	9995
20°	10239	9834	9558
25°	10009	9420	9618
30°	9651	9088	9724
35°	9403	8775	9552
40°	9135	8542	9611
45°	8847	8240	9438
50°	8494	7922	9366
55°	7964	7582	9361
60°	7570	7110	8961
65°	6744	6544	8676
70°	5562	5804	7780
75°	4037	4901	7102
80°	2336	3991	6376
85°	933	3050	5616

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 9438 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	512.1	3.2
10°-20°	1458.5	9.1
20°-30°	2170.1	13.5
30°-40°	2608.4	16.2
40°-50°	2745.5	17.1
50°-60°	2547.5	15.9
60°-70°	2014.3	12.5
70°-80°	1230.4	7.7
80°-90°	536.1	3.3
90°-100°	166.9	1.0
100°-110°	37.5	0.2
110°-120°	15.1	0.1
120°-130°	8.5	0.1
130°-140°	2.3	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°	4140.7	25.8
0°-40°	6749.1	42.0
0°-60°	12042.1	75.0
0°-90°	15822.8	98.6
90°-120°	219.5	1.4
90°-150°	230.2	1.4
90°-180°	230.0	1.4
0°-180°	16053.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5329	5329	5329	5329	5329	
5°	5316	5305	5323	5383	5398	504
15°	5031	5224	5276	5101	5104	1417
25°	4538	4828	4608	4746	4823	2084
35°	3872	3979	4039	4406	4556	2420
45°	3164	3178	3440	3985	4134	2439
55°	2331	2369	2744	3344	3610	2094
65°	1475	1522	1933	2558	2791	1461
75°	558	739	1078	1656	1761	609
85°	50	174	420	815	936	77
90°	1	52	220	517	609	2
95°	1	13	97	283	346	1
105°	1	8	20	55	78	1
115°	1	4	15	25	26	2
125°	1	2	6	16	23	2
135°	2	2	2	5	8	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°	5328.7	5328.7	5328.7	5328.7	5328.7
2.5°	5335.2	5321.1	5291.8	5320.0	5327.6
5°	5315.7	5304.8	5323.3	5383.0	5398.2
7.5°	5271.2	5312.4	5361.3	5469.8	5504.6
10°	5205.0	5283.1	5429.7	5521.9	5486.1
12.5°	5124.6	5257.1	5453.6	5273.4	5189.8
15°	5031.3	5224.5	5275.5	5100.8	5104.0
17.5°	4921.7	5197.4	5040.0	5035.6	5004.2
20°	4803.3	5106.2	4897.8	4889.1	4855.4
22.5°	4676.3	4985.7	4771.9	4754.5	4845.7
25°	4538.5	4828.3	4608.0	4745.8	4822.9
27.5°	4365.9	4622.1	4471.2	4666.6	4763.2
30°	4191.1	4409.3	4331.1	4603.6	4775.1
32.5°	4027.2	4186.8	4216.1	4579.7	4608.0
35°	3872.0	3979.4	4039.1	4406.0	4555.8
37.5°	3701.6	3730.9	3889.3	4333.3	4477.7
40°	3527.9	3509.4	3763.4	4213.9	4413.6
42.5°	3341.2	3334.7	3629.9	4154.2	4254.1
45°	3164.2	3178.3	3440.0	3984.9	4133.6
47.5°	2983.0	3001.4	3259.8	3799.3	3983.8
50°	2772.4	2796.2	3099.1	3634.3	3872.0
52.5°	2544.4	2590.0	2942.8	3477.9	3717.8
55°	2330.6	2368.6	2744.1	3344.4	3610.4
57.5°	2135.2	2158.0	2539.0	3176.2	3377.0
60°	1943.0	1948.5	2345.8	2989.5	3181.6
62.5°	1722.7	1732.5	2147.1	2769.1	3026.4
65°	1475.2	1521.9	1933.3	2558.5	2790.8
67.5°	1244.0	1325.4	1715.1	2365.3	2486.9
70°	996.5	1134.3	1501.2	2138.4	2224.2
72.5°	769.6	931.4	1282.0	1884.4	2004.9
75°	557.9	739.2	1077.9	1656.5	1760.7
77.5°	375.6	560.1	886.9	1404.6	1542.5
80°	224.7	409.2	716.4	1171.3	1326.5
82.5°	115.1	274.6	555.8	982.4	1121.3
85°	49.9	173.7	420.1	815.2	935.7
87.5°	14.1	98.8	309.4	658.9	760.9
90°	1.1	52.1	220.4	516.7	609.0
92.5°	1.1	25.0	155.2	390.8	461.3
95°	1.1	13.0	96.6	283.3	346.3
97.5°	1.1	7.6	58.6	200.8	254.0
100°	1.1	6.5	34.7	133.5	181.3
102.5°	1.1	7.6	23.9	84.7	118.3
105°	1.1	7.6	19.5	55.4	78.2
107.5°	2.2	7.6	17.4	41.2	54.3
110°	1.1	6.5	18.5	31.5	42.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.2	5.4	17.4	26.1	31.5
115°	1.1	4.3	15.2	25.0	26.1
117.5°	2.2	3.3	11.9	25.0	26.1
120°	2.2	2.2	9.8	23.9	27.1
122.5°	2.2	2.2	7.6	21.7	26.1
125°	1.1	2.2	6.5	16.3	22.8
127.5°	2.2	2.2	5.4	13.0	17.4
130°	2.2	2.2	4.3	9.8	13.0
132.5°	2.2	2.2	3.3	7.6	9.8
135°	2.2	2.2	2.2	5.4	7.6
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)