

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: P518261

Luminaire Tested: HVL8-8-LD4-3HI-40-UNV-O-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: P518261
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3HI-40-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 25909.0 lumens
Efficiency: N/A
Efficacy: 102.9 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

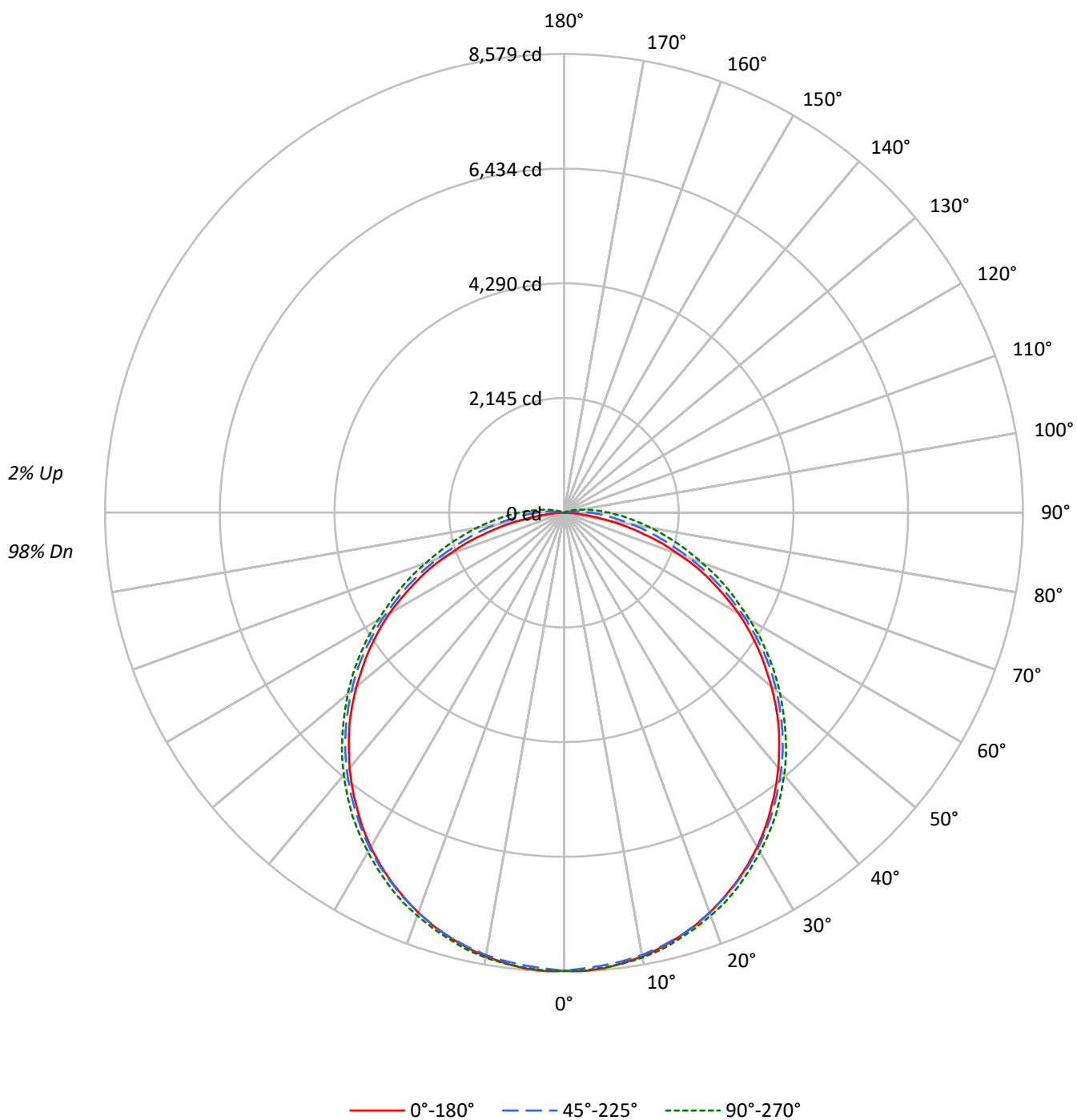
Input Watts (W): 251.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			98
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	77	73	79	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	52	62	56	51	60	54	50			47
5	75	61	52	45	72	60	52	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	40	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°	17294	17294	17294
5°	17292	16930	16925
10°	17208	16647	16586
15°	17092	16332	16179
20°	16966	15976	15784
25°	16809	15610	15382
30°	16625	15218	14925
35°	16384	14785	14473
40°	16137	14329	13945
45°	15871	13830	13376
50°	15516	13250	12763
55°	15137	12614	12088
60°	14685	11780	11300
65°	13916	10845	10518
70°	12786	9739	9610
75°	11152	8524	8784
80°	8651	7337	8030
85°	4986	6145	7311

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 15871 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	810.9	3.1
10°-20°	2326.0	9.0
20°-30°	3529.4	13.6
30°-40°	4267.6	16.5
40°-50°	4452.9	17.2
50°-60°	4071.3	15.7
60°-70°	3173.8	12.2
70°-80°	1985.4	7.7
80°-90°	901.7	3.5
90°-100°	302.2	1.2
100°-110°	75.9	0.3
110°-120°	12.0	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°	6666.3	25.7
0°-40°	10933.9	42.2
0°-60°	19458.1	75.1
0°-90°	25518.9	98.5
90°-120°	390.0	1.5
90°-150°	390.0	1.5
90°-180°	390.0	1.5
0°-180°	25909.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8569	8569	8569	8569	8569	
5°	8551	8535	8496	8537	8537	812
15°	8226	8240	8218	8264	8262	2322
25°	7622	7628	7636	7700	7713	3512
35°	6747	6777	6806	6874	6903	4223
45°	5676	5727	5773	5830	5858	4374
55°	4430	4482	4565	4632	4662	3958
65°	3044	3097	3204	3331	3384	3012
75°	1541	1636	1875	2099	2178	1643
85°	267	493	846	1119	1218	337
90°	2	184	499	749	840	11
95°	2	48	259	469	541	2
105°	4	6	42	125	168	4
115°	6	6	8	22	32	4
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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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8569.1	8569.1	8569.1	8569.1	8569.1
2.5°	8579.2	8567.1	8528.7	8567.1	8565.1
5°	8551.0	8534.8	8496.4	8536.8	8536.8
7.5°	8494.4	8488.3	8454.0	8500.4	8500.4
10°	8427.7	8425.7	8397.4	8447.9	8449.9
12.5°	8334.8	8342.9	8316.6	8365.1	8371.2
15°	8225.7	8239.9	8217.6	8264.1	8262.1
17.5°	8106.5	8114.6	8098.5	8151.0	8149.0
20°	7959.1	7969.2	7957.1	8011.6	8017.7
22.5°	7795.4	7809.6	7807.6	7864.1	7880.3
25°	7621.7	7627.8	7635.9	7700.5	7712.6
27.5°	7429.8	7439.9	7454.1	7512.6	7524.8
30°	7219.7	7235.9	7252.0	7312.6	7328.8
32.5°	6997.5	7013.7	7033.9	7112.7	7120.7
35°	6747.0	6777.3	6805.6	6874.3	6902.6
37.5°	6496.5	6534.9	6561.2	6633.9	6656.1
40°	6231.9	6270.3	6312.7	6389.5	6403.6
42.5°	5955.2	5999.6	6050.1	6118.8	6143.0
45°	5676.4	5726.9	5773.4	5829.9	5858.2
47.5°	5375.4	5425.9	5482.5	5547.1	5565.3
50°	5064.3	5122.9	5183.5	5244.1	5276.4
52.5°	4745.1	4815.8	4884.5	4949.2	4979.5
55°	4430.0	4482.5	4565.4	4632.0	4662.3
57.5°	4102.8	4147.2	4221.9	4331.0	4347.2
60°	3769.4	3809.8	3886.6	3975.5	4011.9
62.5°	3401.8	3456.3	3537.1	3650.3	3682.6
65°	3044.2	3096.8	3203.8	3331.1	3383.6
67.5°	2698.8	2717.0	2854.4	2987.7	3072.5
70°	2290.8	2359.4	2519.0	2682.7	2747.3
72.5°	1939.3	2007.9	2183.7	2375.6	2456.4
75°	1541.3	1636.3	1874.6	2098.9	2177.6
77.5°	1191.8	1296.9	1591.8	1818.1	1909.0
80°	832.3	995.9	1317.1	1571.6	1670.6
82.5°	523.2	725.2	1068.6	1335.3	1422.1
85°	266.6	492.9	846.4	1119.1	1218.1
87.5°	70.7	319.2	658.5	919.1	1020.1
90°	2.0	183.8	499.0	749.4	840.3
92.5°	2.0	103.0	371.7	595.9	688.8
95°	2.0	48.5	258.6	468.7	541.4
97.5°	2.0	20.2	177.8	353.5	426.2
100°	2.0	10.1	113.1	256.5	319.2
102.5°	4.0	6.1	70.7	183.8	234.3
105°	4.0	6.1	42.4	125.2	167.7
107.5°	4.0	6.1	24.2	84.8	115.1
110°	6.1	6.1	14.1	52.5	76.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	6.1	6.1	8.1	34.3	50.5
115°	6.1	6.1	8.1	22.2	32.3
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)