

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: P518203

Luminaire Tested: HVL8-8-LD4-2HI-30-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: P518203
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2HI-30-UNV-C-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17116.0 lumens
Efficiency: N/A
Efficacy: 99.3 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

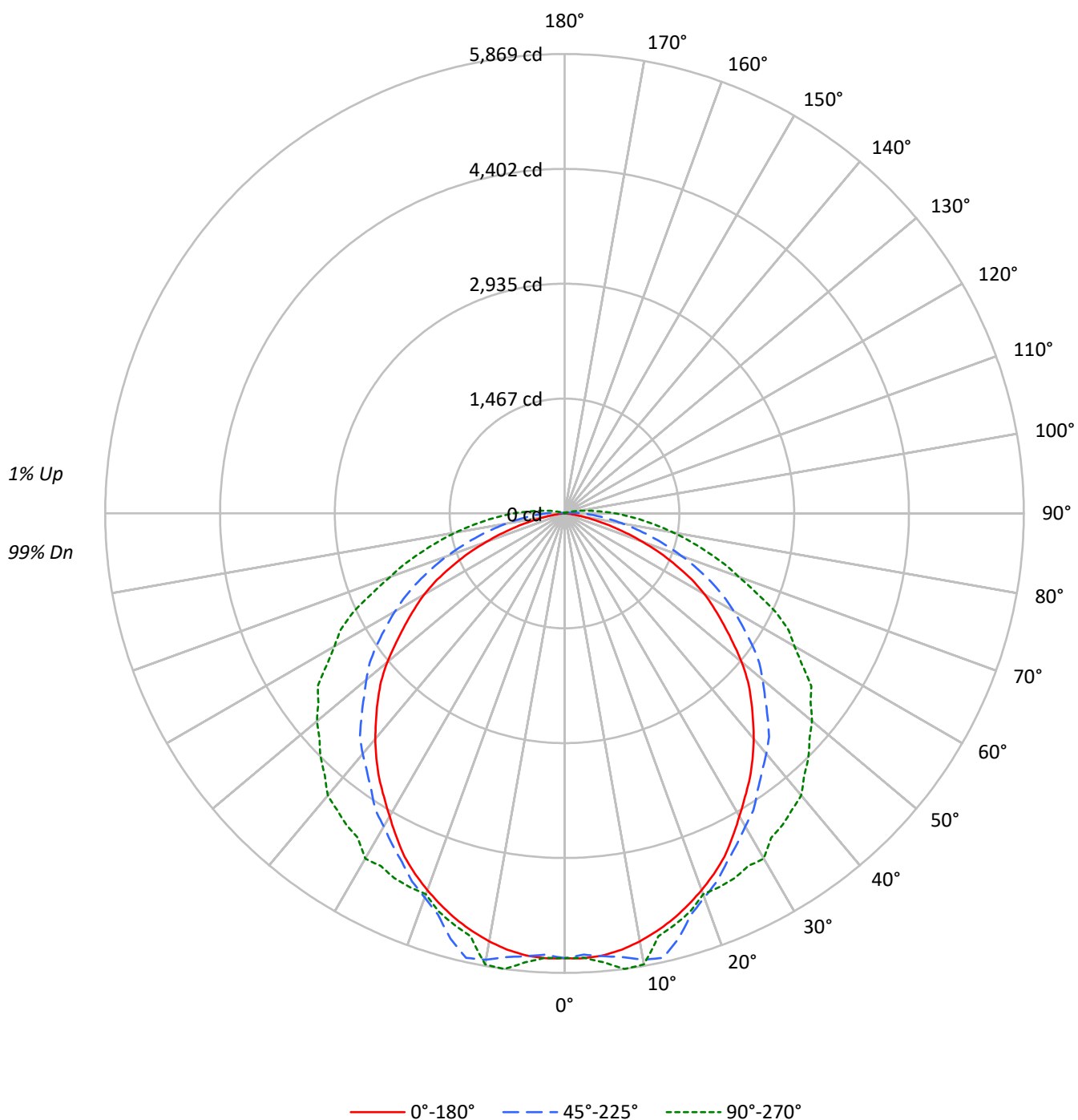
Input Watts (W): 172.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

TEST NUMBER: P518203

CATALOG NUMBER: HVL8-8-LD4-2HI-30-UNV-C-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P518203

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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°	11467	11467	11467
5°	11462	11309	11411
10°	11332	11477	11481
15°	11147	11179	10657
20°	10917	10485	10191
25°	10672	10044	10255
30°	10290	9690	10368
35°	10025	9356	10185
40°	9740	9108	10248
45°	9433	8786	10063
50°	9056	8447	9986
55°	8491	8084	9981
60°	8071	7581	9555
65°	7190	6978	9250
70°	5930	6189	8295
75°	4304	5226	7572
80°	2490	4256	6798
85°	995	3252	5988

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 10063 cd/sqm

TEST NUMBER: P518203

CATALOG NUMBER: HVL8-8-LD4-2HI-30-UNV-C-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	546.1	3.2
10°-20°	1555.1	9.1
20°-30°	2313.8	13.5
30°-40°	2781.1	16.2
40°-50°	2927.3	17.1
50°-60°	2716.2	15.9
60°-70°	2147.6	12.5
70°-80°	1311.9	7.7
80°-90°	571.6	3.3
90°-100°	177.9	1.0
100°-110°	40.0	0.2
110°-120°	16.1	0.1
120°-130°	9.0	0.1
130°-140°	2.4	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°	4414.9	25.8
0°-40°	7196.0	42.0
0°-60°	12839.5	75.0
0°-90°	16870.6	98.6
90°-120°	234.0	1.4
90°-150°	245.5	1.4
90°-180°	245.0	1.4
0°-180°	17116.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5682	5682	5682	5682	5682	
5°	5668	5656	5676	5740	5756	537
15°	5364	5570	5625	5438	5442	1511
25°	4839	5148	4913	5060	5142	2222
35°	4128	4243	4307	4698	4858	2580
45°	3374	3389	3668	4249	4407	2601
55°	2485	2525	2926	3566	3849	2233
65°	1573	1623	2061	2728	2976	1558
75°	595	788	1149	1766	1877	649
85°	53	185	448	869	998	82
90°	1	56	235	551	649	3
95°	1	14	103	302	369	1
105°	1	8	21	59	83	2
115°	1	5	16	27	28	2
125°	1	2	7	17	24	2
135°	2	2	2	6	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

TEST NUMBER: P518203

CATALOG NUMBER: HVL8-8-LD4-2HI-30-UNV-C-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5681.6	5681.6	5681.6	5681.6	5681.6
2.5°	5688.5	5673.5	5642.2	5672.3	5680.4
5°	5667.7	5656.1	5675.8	5739.5	5755.7
7.5°	5620.2	5664.2	5716.3	5832.0	5869.1
10°	5549.6	5633.0	5789.2	5887.6	5849.4
12.5°	5464.0	5605.2	5814.7	5622.6	5533.4
15°	5364.5	5570.5	5624.9	5438.5	5442.0
17.5°	5247.6	5541.5	5373.7	5369.1	5335.5
20°	5121.4	5444.3	5222.1	5212.8	5177.0
22.5°	4986.0	5315.8	5087.8	5069.3	5166.5
25°	4839.0	5148.0	4913.1	5060.1	5142.2
27.5°	4655.0	4928.1	4767.3	4975.6	5078.6
30°	4468.6	4701.3	4617.9	4908.5	5091.3
32.5°	4293.9	4464.0	4495.3	4883.0	4913.1
35°	4128.4	4243.0	4306.6	4697.8	4857.5
37.5°	3946.7	3977.9	4146.9	4620.3	4774.2
40°	3761.5	3741.8	4012.6	4493.0	4705.9
42.5°	3562.4	3555.5	3870.3	4429.3	4535.8
45°	3373.8	3388.8	3667.7	4248.7	4407.3
47.5°	3180.5	3200.2	3475.6	4050.8	4247.6
50°	2955.9	2981.4	3304.3	3874.9	4128.4
52.5°	2712.9	2761.5	3137.7	3708.2	3964.0
55°	2484.9	2525.4	2925.9	3565.9	3849.4
57.5°	2276.6	2300.9	2707.1	3386.5	3600.6
60°	2071.7	2077.5	2501.1	3187.4	3392.3
62.5°	1836.8	1847.2	2289.3	2952.5	3226.8
65°	1572.9	1622.6	2061.3	2727.9	2975.6
67.5°	1326.4	1413.2	1828.7	2521.9	2651.6
70°	1062.5	1209.5	1600.7	2280.0	2371.5
72.5°	820.6	993.0	1366.9	2009.2	2137.7
75°	594.9	788.2	1149.3	1766.2	1877.3
77.5°	400.5	597.2	945.6	1497.7	1644.6
80°	239.6	436.3	763.9	1248.8	1414.3
82.5°	122.7	292.8	592.6	1047.4	1195.6
85°	53.2	185.2	447.9	869.2	997.7
87.5°	15.0	105.3	329.9	702.5	811.3
90°	1.2	55.6	234.9	550.9	649.3
92.5°	1.2	26.6	165.5	416.7	491.9
95°	1.2	13.9	103.0	302.1	369.2
97.5°	1.2	8.1	62.5	214.1	270.8
100°	1.2	6.9	37.0	142.4	193.3
102.5°	1.2	8.1	25.5	90.3	126.2
105°	1.2	8.1	20.8	59.0	83.3
107.5°	2.3	8.1	18.5	44.0	57.9
110°	1.2	6.9	19.7	33.6	45.1

TEST NUMBER: P518203

CATALOG NUMBER: HVL8-8-LD4-2HI-30-UNV-C-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.3	5.8	18.5	27.8	33.6
115°	1.2	4.6	16.2	26.6	27.8
117.5°	2.3	3.5	12.7	26.6	27.8
120°	2.3	2.3	10.4	25.5	28.9
122.5°	2.3	2.3	8.1	23.1	27.8
125°	1.2	2.3	6.9	17.4	24.3
127.5°	2.3	2.3	5.8	13.9	18.5
130°	2.3	2.3	4.6	10.4	13.9
132.5°	2.3	2.3	3.5	8.1	10.4
135°	2.3	2.3	2.3	5.8	8.1
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)