

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: P517639

Luminaire Tested: HVL12-8-LD4-2HI-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: P517639
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2HI-50-UNV-C-EDD-90
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19265.0 lumens
Efficiency: N/A
Efficacy: 108.9 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

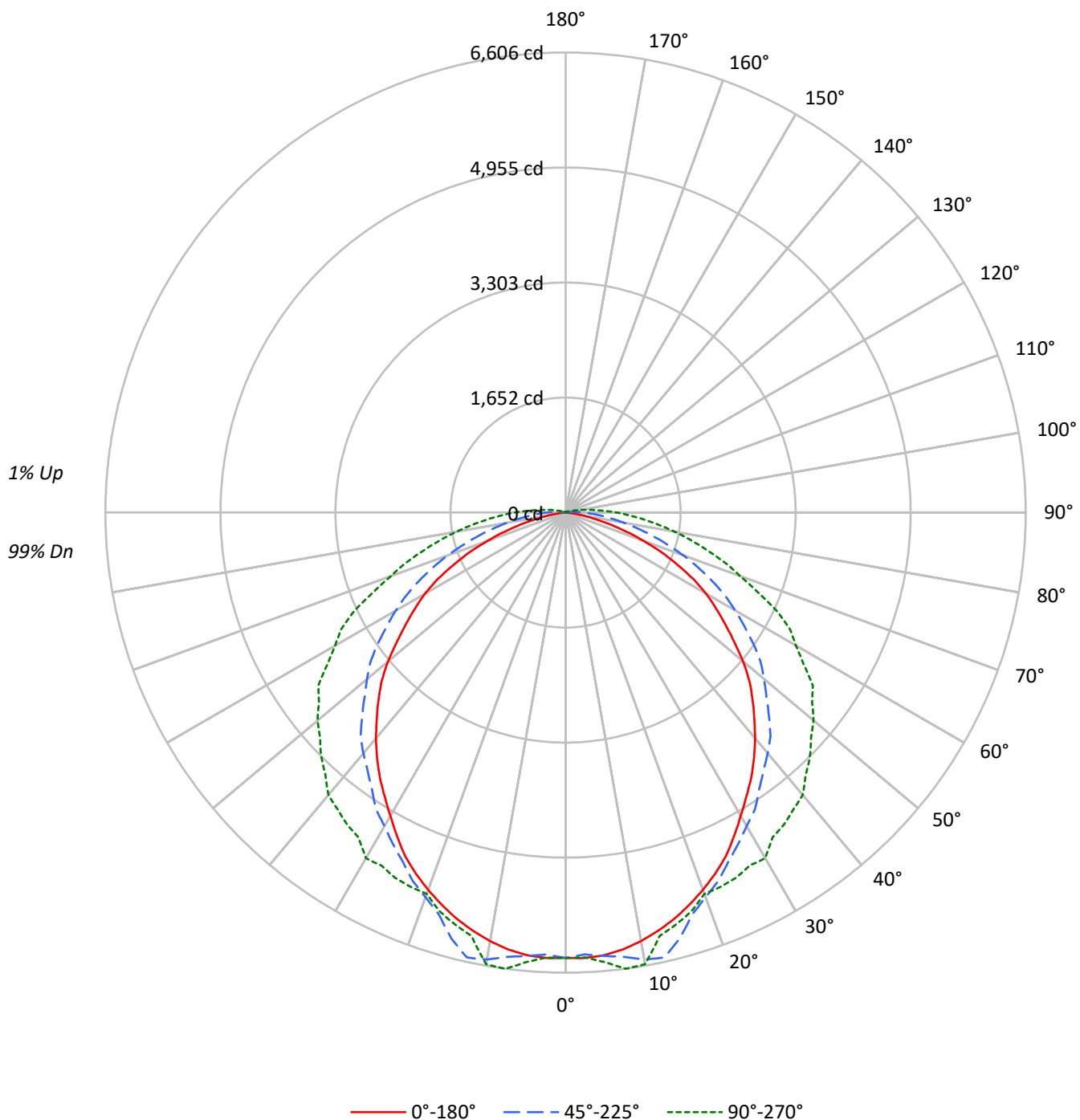
Input Watts (W): 176.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	103	98	94	105	100	96	92	96	92	89		91	89	86		87
2	98	89	82	76	95	87	80	75	83	78	73		80	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	51		62	56	51		60
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		54
6	69	55	46	39	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°	8604	8604	8604
5°	8600	8529	8624
10°	8503	8699	8738
15°	8364	8516	8167
20°	8192	8029	7866
25°	8008	7732	7973
30°	7721	7501	8122
35°	7523	7285	8042
40°	7309	7138	8162
45°	7078	6935	8091
50°	6796	6723	8114
55°	6371	6495	8209
60°	6056	6160	7973
65°	5395	5751	7855
70°	4450	5195	7202
75°	3230	4499	6772
80°	1869	3802	6340
85°	747	3093	5967

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 8209 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	614.6	3.2
10°-20°	1750.3	9.1
20°-30°	2604.3	13.5
30°-40°	3130.3	16.2
40°-50°	3294.8	17.1
50°-60°	3057.2	15.9
60°-70°	2417.3	12.5
70°-80°	1476.6	7.7
80°-90°	643.3	3.3
90°-100°	200.3	1.0
100°-110°	45.0	0.2
110°-120°	18.1	0.1
120°-130°	10.2	0.1
130°-140°	2.7	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°	4969.2	25.8
0°-40°	8099.5	42.0
0°-60°	14451.6	75.0
0°-90°	18988.7	98.6
90°-120°	263.3	1.4
90°-150°	276.2	1.4
90°-180°	276.0	1.4
0°-180°	19265.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6395	6395	6395	6395	6395	
5°	6379	6366	6388	6460	6478	605
15°	6038	6270	6331	6121	6125	1701
25°	5447	5794	5530	5695	5788	2500
35°	4647	4776	4847	5288	5467	2904
45°	3797	3814	4128	4782	4961	2927
55°	2797	2842	3293	4014	4333	2513
65°	1770	1826	2320	3070	3349	1753
75°	670	887	1294	1988	2113	731
85°	60	208	504	978	1123	93
90°	1	62	264	620	731	3
95°	1	16	116	340	416	1
105°	1	9	23	66	94	2
115°	1	5	18	30	31	2
125°	1	3	8	20	27	2
135°	3	3	3	6	9	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°	6394.9	6394.9	6394.9	6394.9	6394.9
2.5°	6402.7	6385.8	6350.6	6384.5	6393.6
5°	6379.3	6366.3	6388.4	6460.1	6478.3
7.5°	6325.9	6375.4	6434.0	6564.3	6606.0
10°	6246.4	6340.2	6516.1	6626.8	6583.8
12.5°	6150.0	6309.0	6544.7	6328.5	6228.2
15°	6038.0	6269.9	6331.1	6121.4	6125.3
17.5°	5906.4	6237.3	6048.4	6043.2	6005.4
20°	5764.4	6127.9	5877.8	5867.3	5827.0
22.5°	5612.0	5983.3	5726.6	5705.8	5815.2
25°	5446.6	5794.4	5529.9	5695.4	5787.9
27.5°	5239.4	5546.9	5365.8	5600.3	5716.2
30°	5029.7	5291.5	5197.8	5524.7	5730.6
32.5°	4833.0	5024.5	5059.7	5496.1	5529.9
35°	4646.7	4775.7	4847.3	5287.6	5467.4
37.5°	4442.2	4477.4	4667.6	5200.4	5373.6
40°	4233.8	4211.6	4516.4	5057.1	5296.8
42.5°	4009.7	4001.9	4356.2	4985.4	5105.3
45°	3797.4	3814.3	4128.2	4782.2	4960.7
47.5°	3579.8	3602.0	3912.0	4559.4	4780.9
50°	3327.1	3355.7	3719.2	4361.4	4646.7
52.5°	3053.5	3108.2	3531.6	4173.8	4461.7
55°	2796.9	2842.5	3293.2	4013.6	4332.8
57.5°	2562.4	2589.8	3047.0	3811.7	4052.7
60°	2331.8	2338.3	2815.1	3587.6	3818.2
62.5°	2067.4	2079.1	2576.7	3323.2	3631.9
65°	1770.4	1826.4	2320.1	3070.5	3349.2
67.5°	1492.9	1590.6	2058.3	2838.6	2984.5
70°	1195.9	1361.3	1801.6	2566.3	2669.2
72.5°	923.6	1117.7	1538.5	2261.5	2406.1
75°	669.6	887.1	1293.6	1987.9	2113.0
77.5°	450.7	672.2	1064.3	1685.7	1851.1
80°	269.7	491.1	859.8	1405.6	1591.9
82.5°	138.1	329.6	667.0	1178.9	1345.7
85°	59.9	208.4	504.1	978.3	1122.9
87.5°	16.9	118.5	371.3	790.7	913.2
90°	1.3	62.5	264.4	620.1	730.8
92.5°	1.3	30.0	186.3	469.0	553.6
95°	1.3	15.6	115.9	340.0	415.6
97.5°	1.3	9.1	70.3	241.0	304.8
100°	1.3	7.8	41.7	160.2	217.6
102.5°	1.3	9.1	28.7	101.6	142.0
105°	1.3	9.1	23.4	66.4	93.8
107.5°	2.6	9.1	20.8	49.5	65.1
110°	1.3	7.8	22.1	37.8	50.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.6	6.5	20.8	31.3	37.8
115°	1.3	5.2	18.2	30.0	31.3
117.5°	2.6	3.9	14.3	30.0	31.3
120°	2.6	2.6	11.7	28.7	32.6
122.5°	2.6	2.6	9.1	26.1	31.3
125°	1.3	2.6	7.8	19.5	27.4
127.5°	2.6	2.6	6.5	15.6	20.8
130°	2.6	2.6	5.2	11.7	15.6
132.5°	2.6	2.6	3.9	9.1	11.7
135°	2.6	2.6	2.6	6.5	9.1
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)