

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: P518180

Luminaire Tested: HVL8-8-LD4-1LO-40-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: P518180
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1LO-40-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

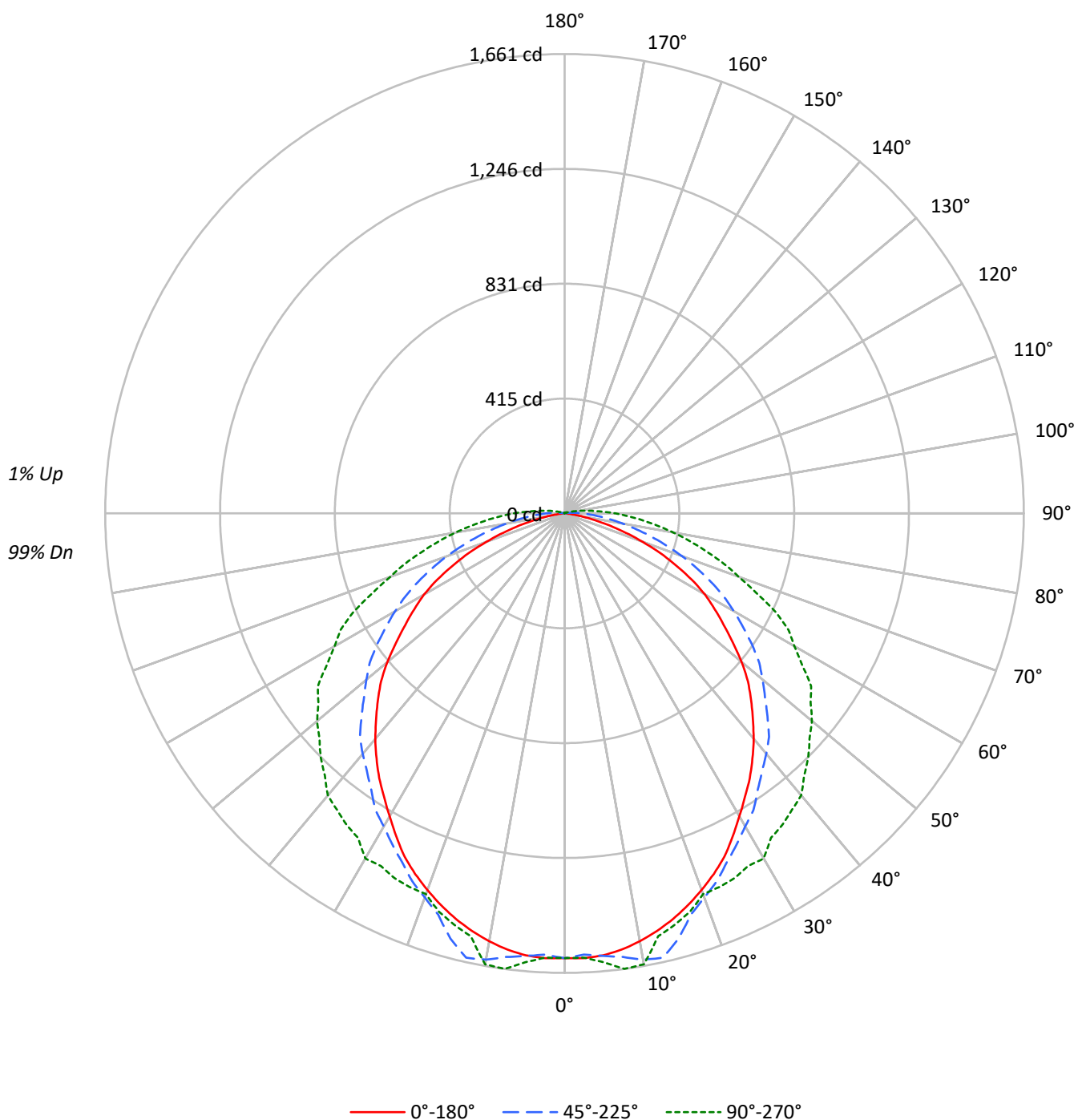
Lumens per Lamp: N/A
Luminaire Lumens: 4843.0 lumens
Efficiency: N/A
Efficacy: 105.3 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

Input Watts (W): 46
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°	3245	3245	3245
5°	3243	3200	3229
10°	3206	3247	3249
15°	3154	3163	3015
20°	3089	2967	2884
25°	3020	2842	2902
30°	2912	2742	2934
35°	2837	2647	2882
40°	2756	2577	2900
45°	2669	2486	2847
50°	2563	2390	2826
55°	2402	2287	2824
60°	2284	2145	2704
65°	2034	1974	2617
70°	1678	1751	2347
75°	1218	1479	2143
80°	705	1204	1924
85°	282	920	1694

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 2847 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.5	3.2
10°-20°	440.0	9.1
20°-30°	654.7	13.5
30°-40°	786.9	16.2
40°-50°	828.3	17.1
50°-60°	768.6	15.9
60°-70°	607.7	12.5
70°-80°	371.2	7.7
80°-90°	161.7	3.3
90°-100°	50.3	1.0
100°-110°	11.3	0.2
110°-120°	4.6	0.1
120°-130°	2.6	0.1
130°-140°	0.7	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°	1249.2	25.8
0°-40°	2036.1	42.0
0°-60°	3633.0	75.0
0°-90°	4773.6	98.6
90°-120°	66.2	1.4
90°-150°	69.5	1.4
90°-180°	69.0	1.4
0°-180°	4843.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1608	1608	1608	1608	1608	
5°	1604	1600	1606	1624	1629	152
15°	1518	1576	1592	1539	1540	428
25°	1369	1457	1390	1432	1455	629
35°	1168	1201	1219	1329	1374	730
45°	955	959	1038	1202	1247	736
55°	703	715	828	1009	1089	632
65°	445	459	583	772	842	441
75°	168	223	325	500	531	184
85°	15	52	127	246	282	23
90°	0	16	66	156	184	1
95°	0	4	29	86	104	0
105°	0	2	6	17	24	0
115°	0	1	5	8	8	1
125°	0	1	2	5	7	1
135°	1	1	1	2	2	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-LD4-1LO-40-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1607.6	1607.6	1607.6	1607.6	1607.6
2.5°	1609.6	1605.3	1596.5	1605.0	1607.3
5°	1603.7	1600.4	1606.0	1624.0	1628.6
7.5°	1590.3	1602.7	1617.4	1650.2	1660.7
10°	1570.3	1593.9	1638.1	1665.9	1655.1
12.5°	1546.0	1586.0	1645.3	1590.9	1565.7
15°	1517.9	1576.2	1591.6	1538.8	1539.8
17.5°	1484.8	1568.0	1520.5	1519.2	1509.7
20°	1449.1	1540.5	1477.6	1475.0	1464.8
22.5°	1410.8	1504.1	1439.6	1434.4	1461.9
25°	1369.2	1456.6	1390.2	1431.8	1455.0
27.5°	1317.1	1394.4	1348.9	1407.8	1437.0
30°	1264.4	1330.2	1306.7	1388.9	1440.6
32.5°	1215.0	1263.1	1271.9	1381.6	1390.2
35°	1168.1	1200.6	1218.6	1329.3	1374.4
37.5°	1116.7	1125.6	1173.4	1307.3	1350.9
40°	1064.3	1058.8	1135.4	1271.3	1331.5
42.5°	1008.0	1006.0	1095.1	1253.3	1283.4
45°	954.6	958.9	1037.8	1202.2	1247.1
47.5°	899.9	905.5	983.4	1146.2	1201.9
50°	836.4	843.6	935.0	1096.4	1168.1
52.5°	767.6	781.4	887.8	1049.3	1121.6
55°	703.1	714.6	827.9	1009.0	1089.2
57.5°	644.2	651.0	766.0	958.2	1018.8
60°	586.2	587.8	707.7	901.9	959.9
62.5°	519.7	522.7	647.8	835.4	913.0
65°	445.0	459.1	583.2	771.9	842.0
67.5°	375.3	399.9	517.4	713.6	750.3
70°	300.6	342.2	452.9	645.1	671.0
72.5°	232.2	281.0	386.8	568.5	604.9
75°	168.3	223.0	325.2	499.7	531.2
77.5°	113.3	169.0	267.6	423.8	465.4
80°	67.8	123.5	216.1	353.4	400.2
82.5°	34.7	82.9	167.7	296.4	338.3
85°	15.1	52.4	126.7	245.9	282.3
87.5°	4.3	29.8	93.3	198.8	229.6
90°	0.3	15.7	66.5	155.9	183.7
92.5°	0.3	7.5	46.8	117.9	139.2
95°	0.3	3.9	29.1	85.5	104.5
97.5°	0.3	2.3	17.7	60.6	76.6
100°	0.3	2.0	10.5	40.3	54.7
102.5°	0.3	2.3	7.2	25.5	35.7
105°	0.3	2.3	5.9	16.7	23.6
107.5°	0.7	2.3	5.2	12.4	16.4
110°	0.3	2.0	5.6	9.5	12.8

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CATALOG NUMBER: HVL8-8-LD4-1LO-40-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.7	1.6	5.2	7.9	9.5
115°	0.3	1.3	4.6	7.5	7.9
117.5°	0.7	1.0	3.6	7.5	7.9
120°	0.7	0.7	2.9	7.2	8.2
122.5°	0.7	0.7	2.3	6.5	7.9
125°	0.3	0.7	2.0	4.9	6.9
127.5°	0.7	0.7	1.6	3.9	5.2
130°	0.7	0.7	1.3	2.9	3.9
132.5°	0.7	0.7	1.0	2.3	2.9
135°	0.7	0.7	0.7	1.6	2.3
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)