

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: P518177

Luminaire Tested: HVL8-8-LD4-1LO-35-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: P518177
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1LO-35-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5167.0 lumens
Efficiency: N/A
Efficacy: 112.3 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

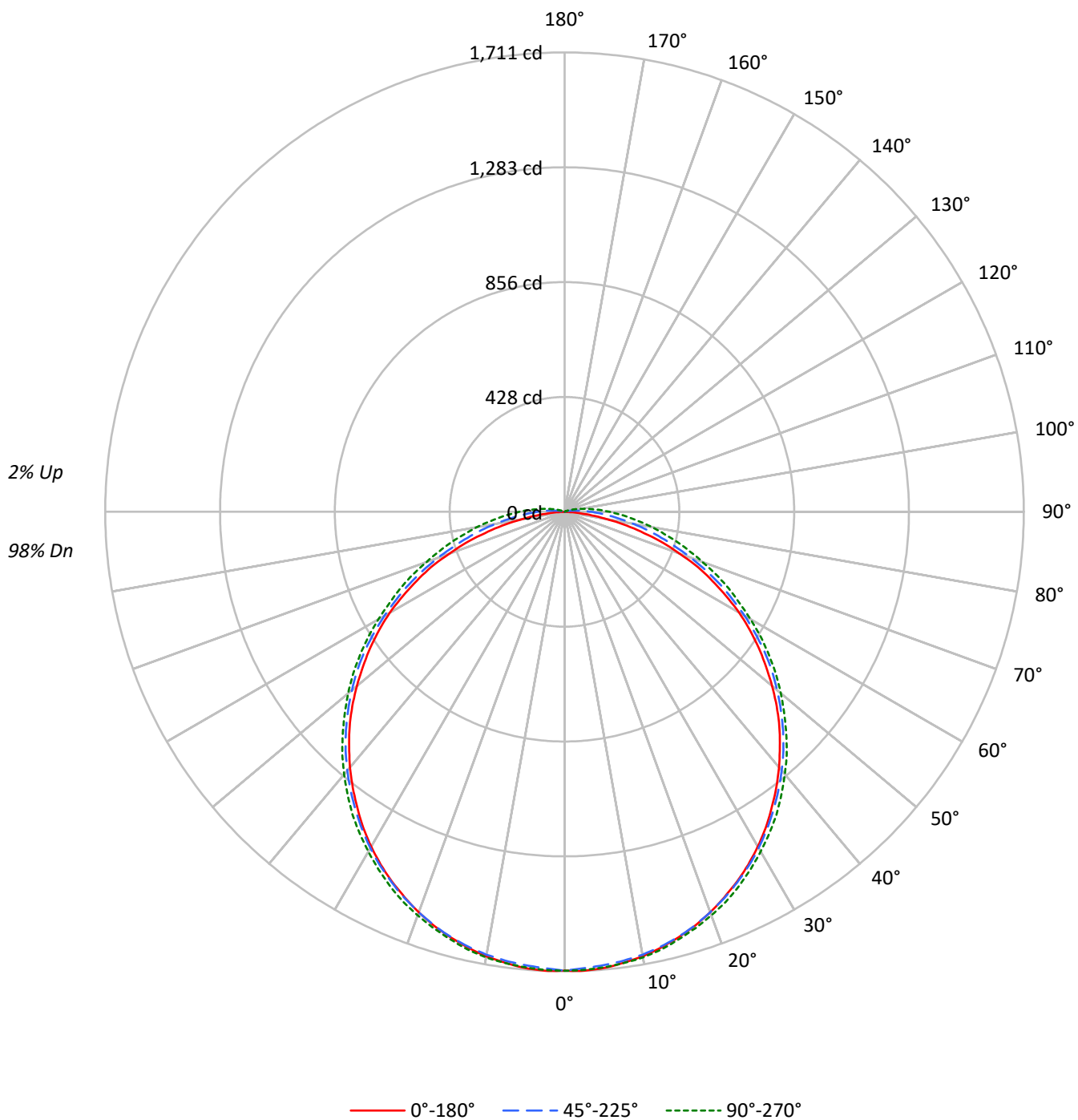
Input Watts (W): 46
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			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°	3449	3449	3449
5°	3449	3376	3375
10°	3432	3320	3308
15°	3408	3257	3227
20°	3383	3186	3148
25°	3352	3113	3067
30°	3316	3035	2976
35°	3268	2948	2886
40°	3218	2857	2781
45°	3165	2758	2668
50°	3094	2642	2545
55°	3019	2516	2411
60°	2929	2349	2254
65°	2775	2163	2098
70°	2550	1942	1916
75°	2224	1700	1752
80°	1725	1463	1602
85°	995	1226	1458

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3165 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.7	3.1
10°-20°	463.9	9.0
20°-30°	703.9	13.6
30°-40°	851.1	16.5
40°-50°	888.0	17.2
50°-60°	811.9	15.7
60°-70°	632.9	12.2
70°-80°	395.9	7.7
80°-90°	179.8	3.5
90°-100°	60.3	1.2
100°-110°	15.1	0.3
110°-120°	2.4	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°	1329.5	25.7
0°-40°	2180.5	42.2
0°-60°	3880.5	75.1
0°-90°	5089.2	98.5
90°-120°	77.8	1.5
90°-150°	77.8	1.5
90°-180°	78.0	1.5
0°-180°	5167.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1709	1709	1709	1709	1709	
5°	1705	1702	1694	1702	1702	162
15°	1640	1643	1639	1648	1648	463
25°	1520	1521	1523	1536	1538	700
35°	1346	1352	1357	1371	1377	842
45°	1132	1142	1151	1163	1168	872
55°	884	894	910	924	930	789
65°	607	618	639	664	675	601
75°	307	326	374	419	434	328
85°	53	98	169	223	243	67
90°	0	37	100	150	168	2
95°	0	10	52	94	108	0
105°	1	1	8	25	33	1
115°	1	1	2	4	6	1
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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CATALOG NUMBER: HVL8-8-LD4-1LO-35-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1708.9	1708.9	1708.9	1708.9	1708.9
2.5°	1710.9	1708.5	1700.9	1708.5	1708.1
5°	1705.3	1702.1	1694.4	1702.5	1702.5
7.5°	1694.0	1692.8	1686.0	1695.2	1695.2
10°	1680.7	1680.3	1674.7	1684.8	1685.2
12.5°	1662.2	1663.8	1658.6	1668.2	1669.5
15°	1640.4	1643.3	1638.8	1648.1	1647.7
17.5°	1616.7	1618.3	1615.1	1625.5	1625.1
20°	1587.3	1589.3	1586.9	1597.7	1599.0
22.5°	1554.6	1557.5	1557.1	1568.3	1571.6
25°	1520.0	1521.2	1522.8	1535.7	1538.1
27.5°	1481.7	1483.7	1486.6	1498.2	1500.7
30°	1439.8	1443.0	1446.3	1458.4	1461.6
32.5°	1395.5	1398.7	1402.8	1418.5	1420.1
35°	1345.6	1351.6	1357.2	1370.9	1376.6
37.5°	1295.6	1303.3	1308.5	1323.0	1327.4
40°	1242.8	1250.5	1258.9	1274.2	1277.1
42.5°	1187.6	1196.5	1206.6	1220.3	1225.1
45°	1132.0	1142.1	1151.4	1162.7	1168.3
47.5°	1072.0	1082.1	1093.4	1106.3	1109.9
50°	1010.0	1021.7	1033.7	1045.8	1052.3
52.5°	946.3	960.4	974.1	987.0	993.0
55°	883.5	893.9	910.5	923.8	929.8
57.5°	818.2	827.1	842.0	863.7	867.0
60°	751.7	759.8	775.1	792.8	800.1
62.5°	678.4	689.3	705.4	728.0	734.4
65°	607.1	617.6	638.9	664.3	674.8
67.5°	538.2	541.8	569.2	595.8	612.7
70°	456.8	470.5	502.4	535.0	547.9
72.5°	386.7	400.4	435.5	473.8	489.9
75°	307.4	326.3	373.9	418.6	434.3
77.5°	237.7	258.6	317.5	362.6	380.7
80°	166.0	198.6	262.7	313.4	333.2
82.5°	104.3	144.6	213.1	266.3	283.6
85°	53.2	98.3	168.8	223.2	242.9
87.5°	14.1	63.7	131.3	183.3	203.4
90°	0.4	36.7	99.5	149.5	167.6
92.5°	0.4	20.5	74.1	118.8	137.4
95°	0.4	9.7	51.6	93.5	108.0
97.5°	0.4	4.0	35.5	70.5	85.0
100°	0.4	2.0	22.6	51.2	63.7
102.5°	0.8	1.2	14.1	36.7	46.7
105°	0.8	1.2	8.5	25.0	33.4
107.5°	0.8	1.2	4.8	16.9	23.0
110°	1.2	1.2	2.8	10.5	15.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	1.2	1.6	6.8	10.1
115°	1.2	1.2	1.6	4.4	6.4
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)