

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: P518173

Luminaire Tested: HVL8-8-LD4-1LO-30-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: P518173
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1LO-30-UNV-O-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: 4923.0 lumens
Efficiency: N/A
Efficacy: 107.0 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

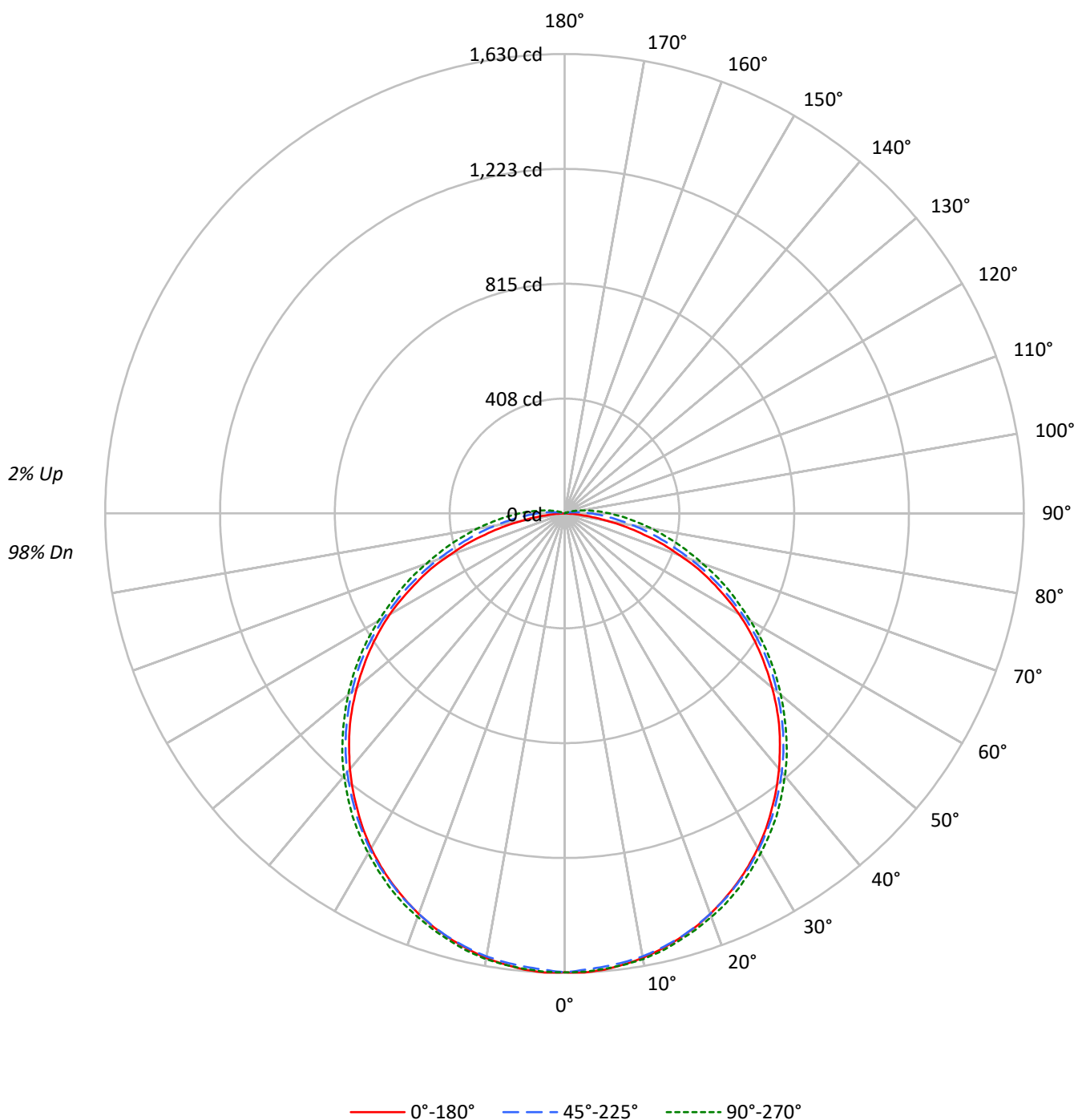
Input Watts (W): 46
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	3286	3286	3286
5°	3286	3217	3216
10°	3270	3163	3152
15°	3248	3103	3074
20°	3224	3036	2999
25°	3194	2966	2923
30°	3159	2892	2836
35°	3113	2809	2750
40°	3066	2723	2650
45°	3016	2628	2542
50°	2948	2518	2425
55°	2876	2397	2297
60°	2790	2238	2147
65°	2644	2061	1999
70°	2430	1850	1826
75°	2119	1620	1669
80°	1643	1394	1526
85°	948	1167	1389

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3016 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.1	3.1
10°-20°	442.0	9.0
20°-30°	670.6	13.6
30°-40°	810.9	16.5
40°-50°	846.1	17.2
50°-60°	773.6	15.7
60°-70°	603.0	12.2
70°-80°	377.2	7.7
80°-90°	171.3	3.5
90°-100°	57.4	1.2
100°-110°	14.4	0.3
110°-120°	2.3	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°	1266.7	25.7
0°-40°	2077.6	42.2
0°-60°	3697.3	75.1
0°-90°	4848.9	98.5
90°-120°	74.1	1.5
90°-150°	74.1	1.5
90°-180°	74.0	1.5
0°-180°	4923.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1628	1628	1628	1628	1628	
5°	1625	1622	1614	1622	1622	154
15°	1563	1566	1561	1570	1570	441
25°	1448	1449	1451	1463	1466	667
35°	1282	1288	1293	1306	1312	802
45°	1079	1088	1097	1108	1113	831
55°	842	852	868	880	886	752
65°	578	588	609	633	643	572
75°	293	311	356	399	414	312
85°	51	94	161	213	232	64
90°	0	35	95	142	160	2
95°	0	9	49	89	103	0
105°	1	1	8	24	32	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-30-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1628.2	1628.2	1628.2	1628.2	1628.2
2.5°	1630.2	1627.8	1620.6	1627.8	1627.5
5°	1624.8	1621.7	1614.4	1622.1	1622.1
7.5°	1614.0	1612.9	1606.4	1615.2	1615.2
10°	1601.4	1601.0	1595.6	1605.2	1605.6
12.5°	1583.7	1585.2	1580.3	1589.5	1590.6
15°	1563.0	1565.7	1561.4	1570.3	1569.9
17.5°	1540.3	1541.9	1538.8	1548.8	1548.4
20°	1512.3	1514.2	1511.9	1522.3	1523.4
22.5°	1481.2	1483.9	1483.5	1494.3	1497.3
25°	1448.2	1449.4	1450.9	1463.2	1465.5
27.5°	1411.7	1413.7	1416.4	1427.5	1429.8
30°	1371.8	1374.9	1378.0	1389.5	1392.6
32.5°	1329.6	1332.7	1336.5	1351.5	1353.0
35°	1282.0	1287.8	1293.1	1306.2	1311.6
37.5°	1234.4	1241.7	1246.7	1260.5	1264.7
40°	1184.1	1191.4	1199.5	1214.1	1216.8
42.5°	1131.5	1140.0	1149.6	1162.6	1167.2
45°	1078.6	1088.2	1097.0	1107.7	1113.1
47.5°	1021.4	1031.0	1041.7	1054.0	1057.5
50°	962.3	973.4	984.9	996.4	1002.6
52.5°	901.6	915.1	928.1	940.4	946.2
55°	841.8	851.7	867.5	880.1	885.9
57.5°	779.6	788.0	802.2	822.9	826.0
60°	716.2	723.9	738.5	755.4	762.3
62.5°	646.4	656.7	672.1	693.6	699.7
65°	578.4	588.4	608.8	632.9	642.9
67.5°	512.8	516.3	542.4	567.7	583.8
70°	435.3	448.3	478.6	509.7	522.0
72.5°	368.5	381.5	414.9	451.4	466.7
75°	292.9	310.9	356.2	398.8	413.8
77.5°	226.5	246.4	302.5	345.5	362.7
80°	158.1	189.2	250.3	298.6	317.4
82.5°	99.4	137.8	203.0	253.7	270.2
85°	50.7	93.7	160.8	212.6	231.5
87.5°	13.4	60.6	125.1	174.6	193.8
90°	0.4	34.9	94.8	142.4	159.7
92.5°	0.4	19.6	70.6	113.2	130.9
95°	0.4	9.2	49.1	89.0	102.9
97.5°	0.4	3.8	33.8	67.2	81.0
100°	0.4	1.9	21.5	48.7	60.6
102.5°	0.8	1.2	13.4	34.9	44.5
105°	0.8	1.2	8.1	23.8	31.9
107.5°	0.8	1.2	4.6	16.1	21.9
110°	1.2	1.2	2.7	10.0	14.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	1.2	1.5	6.5	9.6
115°	1.2	1.2	1.5	4.2	6.1
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)