

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: P518172

Luminaire Tested: HVL8-8-LD4-1LO-30-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: P518172
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-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

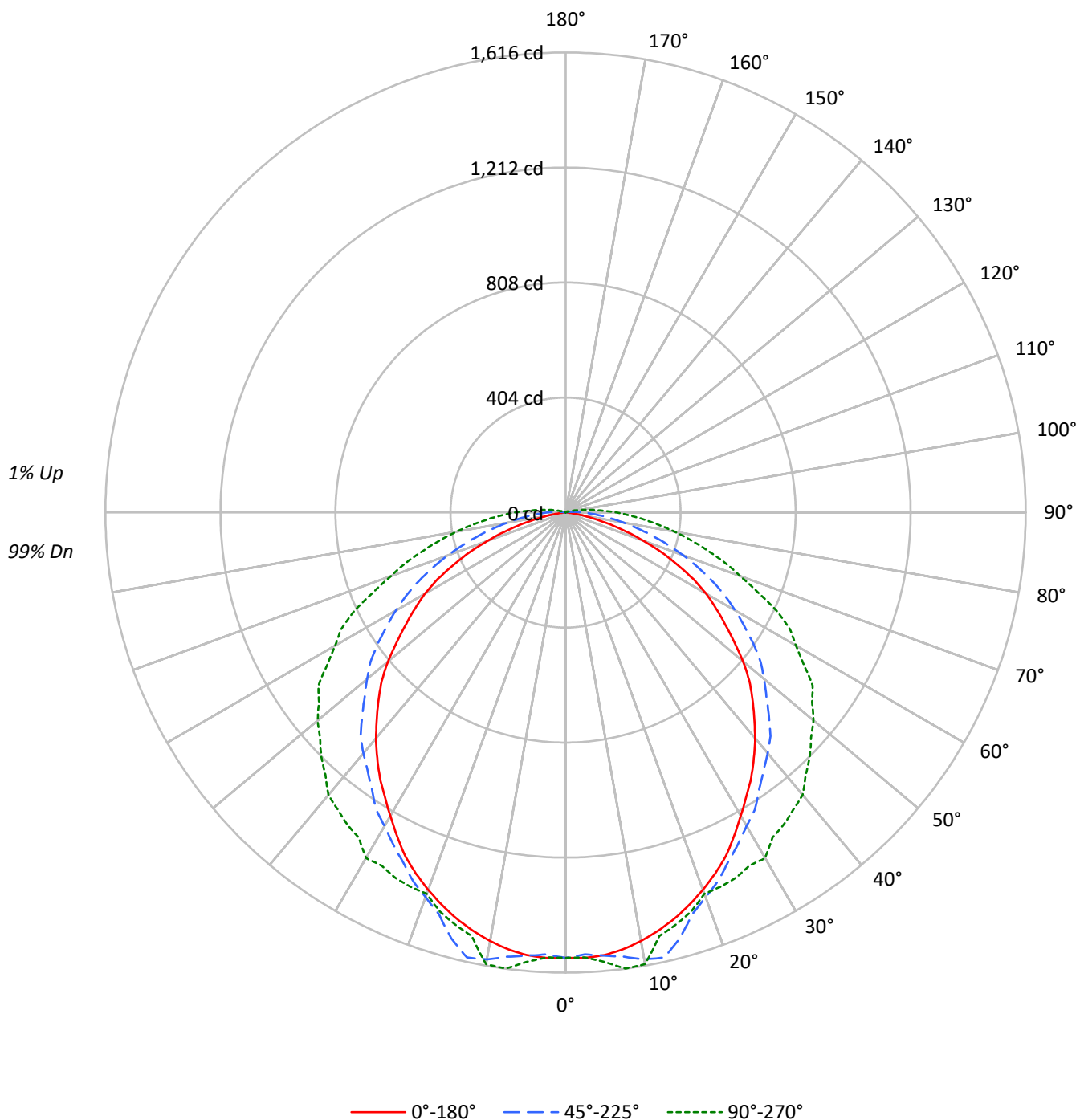
Lumens per Lamp: N/A
Luminaire Lumens: 4711.9 lumens
Efficiency: N/A
Efficacy: 102.4 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

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°	3157	3157	3157
5°	3155	3113	3141
10°	3120	3160	3161
15°	3069	3078	2934
20°	3005	2886	2806
25°	2938	2765	2823
30°	2833	2668	2854
35°	2760	2576	2804
40°	2681	2507	2821
45°	2597	2419	2770
50°	2493	2325	2749
55°	2338	2225	2748
60°	2222	2087	2630
65°	1979	1921	2547
70°	1633	1704	2284
75°	1185	1439	2085
80°	686	1172	1872
85°	275	895	1649

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 2770 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.3	3.2
10°-20°	428.1	9.1
20°-30°	637.0	13.5
30°-40°	765.6	16.2
40°-50°	805.9	17.1
50°-60°	747.8	15.9
60°-70°	591.2	12.5
70°-80°	361.2	7.7
80°-90°	157.4	3.3
90°-100°	49.0	1.0
100°-110°	11.0	0.2
110°-120°	4.4	0.1
120°-130°	2.5	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°	1215.4	25.8
0°-40°	1981.0	42.0
0°-60°	3534.7	75.0
0°-90°	4644.4	98.6
90°-120°	64.4	1.4
90°-150°	67.5	1.4
90°-180°	68.0	1.4
0°-180°	4711.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1564	1564	1564	1564	1564	
5°	1560	1557	1562	1580	1584	148
15°	1477	1534	1548	1497	1498	416
25°	1332	1417	1353	1393	1416	612
35°	1136	1168	1186	1293	1337	710
45°	929	933	1010	1170	1213	716
55°	684	695	806	982	1060	615
65°	433	447	568	751	819	429
75°	164	217	316	486	517	179
85°	15	51	123	239	275	23
90°	0	15	65	152	179	1
95°	0	4	28	83	102	0
105°	0	2	6	16	23	0
115°	0	1	4	7	8	0
125°	0	1	2	5	7	0
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

TEST NUMBER: P518172

CATALOG NUMBER: HVL8-8-LD4-1LO-30-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1564.1	1564.1	1564.1	1564.1	1564.1
2.5°	1566.0	1561.9	1553.3	1561.6	1563.8
5°	1560.3	1557.1	1562.5	1580.1	1584.5
7.5°	1547.2	1559.3	1573.7	1605.5	1615.7
10°	1527.8	1550.7	1593.8	1620.8	1610.3
12.5°	1504.2	1543.1	1600.8	1547.9	1523.3
15°	1476.8	1533.5	1548.5	1497.2	1498.2
17.5°	1444.6	1525.6	1479.4	1478.1	1468.9
20°	1409.9	1498.8	1437.6	1435.1	1425.2
22.5°	1372.6	1463.4	1400.7	1395.6	1422.3
25°	1332.2	1417.2	1352.6	1393.0	1415.6
27.5°	1281.5	1356.7	1312.4	1369.8	1398.1
30°	1230.2	1294.3	1271.3	1351.3	1401.6
32.5°	1182.1	1228.9	1237.5	1344.3	1352.6
35°	1136.5	1168.1	1185.6	1293.3	1337.3
37.5°	1086.5	1095.1	1141.6	1271.9	1314.3
40°	1035.5	1030.1	1104.7	1236.9	1295.5
42.5°	980.7	978.8	1065.5	1219.4	1248.7
45°	928.8	932.9	1009.7	1169.7	1213.3
47.5°	875.6	881.0	956.8	1115.2	1169.4
50°	813.8	820.8	909.7	1066.8	1136.5
52.5°	746.9	760.2	863.8	1020.9	1091.3
55°	684.1	695.2	805.5	981.7	1059.7
57.5°	626.7	633.4	745.3	932.3	991.2
60°	570.3	571.9	688.5	877.5	933.9
62.5°	505.7	508.5	630.2	812.8	888.3
65°	433.0	446.7	567.5	751.0	819.2
67.5°	365.1	389.0	503.4	694.3	730.0
70°	292.5	333.0	440.7	627.7	652.9
72.5°	225.9	273.4	376.3	553.1	588.5
75°	163.8	217.0	316.4	486.2	516.8
77.5°	110.2	164.4	260.3	412.3	452.8
80°	66.0	120.1	210.3	343.8	389.4
82.5°	33.8	80.6	163.1	288.4	329.1
85°	14.7	51.0	123.3	239.3	274.7
87.5°	4.1	29.0	90.8	193.4	223.4
90°	0.3	15.3	64.7	151.7	178.7
92.5°	0.3	7.3	45.6	114.7	135.4
95°	0.3	3.8	28.4	83.2	101.6
97.5°	0.3	2.2	17.2	58.9	74.6
100°	0.3	1.9	10.2	39.2	53.2
102.5°	0.3	2.2	7.0	24.9	34.7
105°	0.3	2.2	5.7	16.2	22.9
107.5°	0.6	2.2	5.1	12.1	15.9
110°	0.3	1.9	5.4	9.2	12.4

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CATALOG NUMBER: HVL8-8-LD4-1LO-30-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.6	1.6	5.1	7.6	9.2
115°	0.3	1.3	4.5	7.3	7.6
117.5°	0.6	1.0	3.5	7.3	7.6
120°	0.6	0.6	2.9	7.0	8.0
122.5°	0.6	0.6	2.2	6.4	7.6
125°	0.3	0.6	1.9	4.8	6.7
127.5°	0.6	0.6	1.6	3.8	5.1
130°	0.6	0.6	1.3	2.9	3.8
132.5°	0.6	0.6	1.0	2.2	2.9
135°	0.6	0.6	0.6	1.6	2.2
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)