

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: P517966

Luminaire Tested: HVL8-2-LD4-3HI-30-UNV-O-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: P517966
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-3HI-30-UNV-O-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5295.0 lumens
Efficiency: N/A
Efficacy: 84.0 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

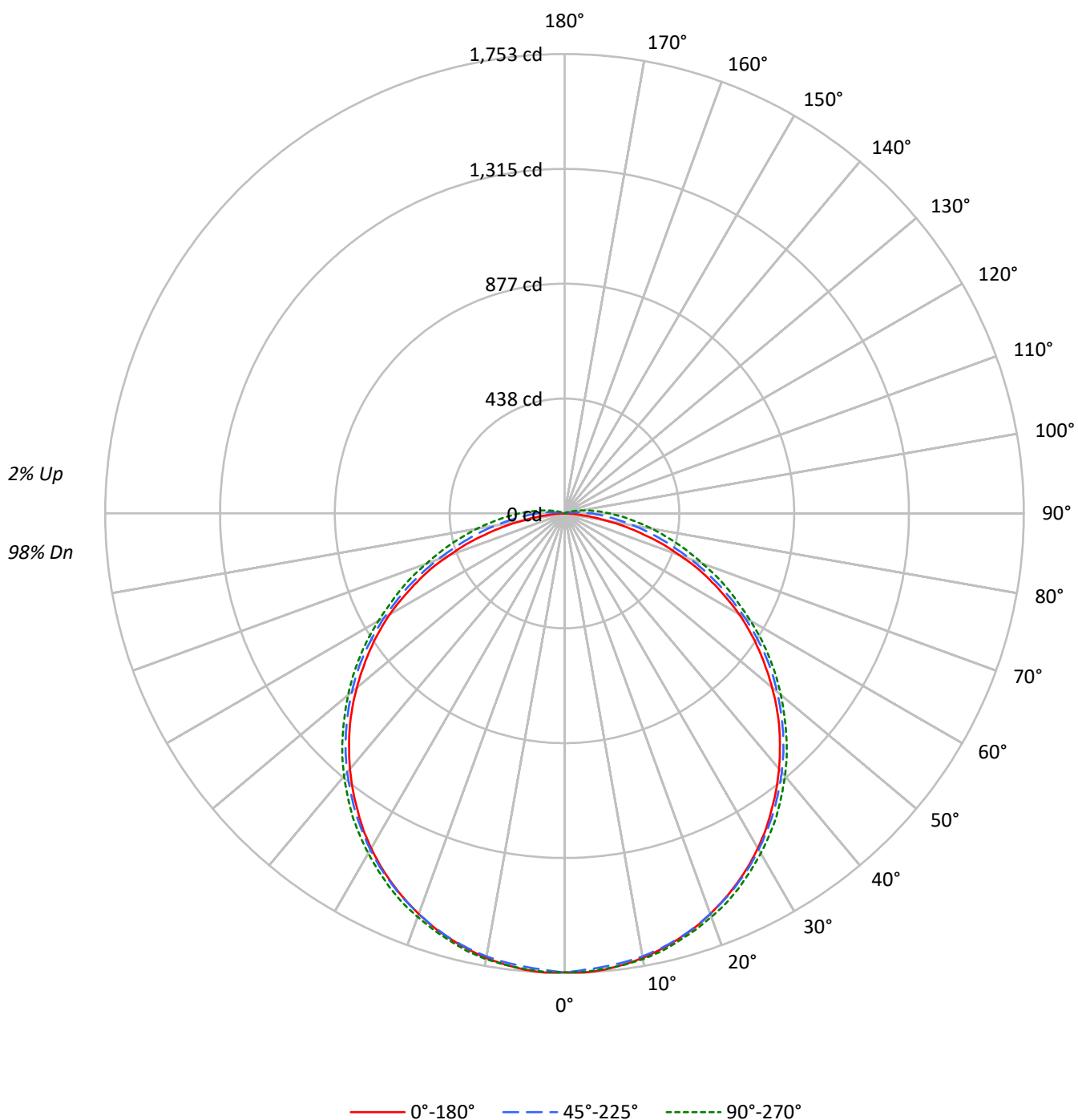
Input Watts (W): 63
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	14138	14138	14138
5°	14060	13787	13836
10°	13915	13507	13558
15°	13743	13202	13226
20°	13563	12867	12903
25°	13355	12523	12574
30°	13123	12161	12201
35°	12840	11765	11831
40°	12544	11350	11400
45°	12226	10901	10934
50°	11824	10386	10433
55°	11388	9824	9882
60°	10870	9106	9237
65°	10081	8308	8598
70°	8992	7375	7856
75°	7494	6357	7180
80°	5370	5355	6564
85°	2585	4337	5976

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 12226 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.7	3.1
10°-20°	475.4	9.0
20°-30°	721.3	13.6
30°-40°	872.2	16.5
40°-50°	910.0	17.2
50°-60°	832.0	15.7
60°-70°	648.6	12.2
70°-80°	405.7	7.7
80°-90°	184.3	3.5
90°-100°	61.8	1.2
100°-110°	15.5	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°	1362.4	25.7
0°-40°	2234.6	42.2
0°-60°	3976.6	75.1
0°-90°	5215.3	98.5
90°-120°	79.7	1.5
90°-150°	79.7	1.5
90°-180°	80.0	1.5
0°-180°	5295.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1751	1751	1751	1751	1751	
5°	1748	1744	1736	1745	1745	166
15°	1681	1684	1679	1689	1688	475
25°	1558	1559	1560	1574	1576	718
35°	1379	1385	1391	1405	1411	863
45°	1160	1170	1180	1192	1197	894
55°	905	916	933	947	953	809
65°	622	633	655	681	692	616
75°	315	334	383	429	445	336
85°	54	101	173	229	249	69
90°	0	38	102	153	172	2
95°	0	10	53	96	111	0
105°	1	1	9	26	34	1
115°	1	1	2	4	7	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

TEST NUMBER: P517966

CATALOG NUMBER: HVL8-2-LD4-3HI-30-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1751.3	1751.3	1751.3	1751.3	1751.3
2.5°	1753.3	1750.9	1743.0	1750.9	1750.4
5°	1747.6	1744.2	1736.4	1744.7	1744.7
7.5°	1736.0	1734.8	1727.7	1737.2	1737.2
10°	1722.4	1722.0	1716.2	1726.5	1726.9
12.5°	1703.4	1705.0	1699.7	1709.6	1710.8
15°	1681.1	1684.0	1679.4	1688.9	1688.5
17.5°	1656.7	1658.4	1655.1	1665.8	1665.4
20°	1626.6	1628.7	1626.2	1637.3	1638.6
22.5°	1593.1	1596.0	1595.6	1607.2	1610.5
25°	1557.6	1558.9	1560.5	1573.7	1576.2
27.5°	1518.4	1520.5	1523.4	1535.4	1537.8
30°	1475.5	1478.8	1482.1	1494.5	1497.8
32.5°	1430.1	1433.4	1437.5	1453.6	1455.3
35°	1378.9	1385.1	1390.9	1404.9	1410.7
37.5°	1327.7	1335.5	1340.9	1355.8	1360.3
40°	1273.6	1281.5	1290.1	1305.8	1308.7
42.5°	1217.1	1226.1	1236.5	1250.5	1255.4
45°	1160.1	1170.4	1179.9	1191.5	1197.2
47.5°	1098.6	1108.9	1120.4	1133.7	1137.4
50°	1035.0	1047.0	1059.3	1071.7	1078.3
52.5°	969.8	984.2	998.2	1011.5	1017.6
55°	905.4	916.1	933.0	946.6	952.8
57.5°	838.5	847.6	862.8	885.1	888.4
60°	770.4	778.6	794.3	812.5	819.9
62.5°	695.2	706.4	722.9	746.0	752.6
65°	622.1	632.9	654.8	680.8	691.5
67.5°	551.6	555.3	583.3	610.6	627.9
70°	468.2	482.2	514.8	548.3	561.5
72.5°	396.3	410.4	446.3	485.5	502.0
75°	315.0	334.4	383.1	428.9	445.0
77.5°	243.6	265.0	325.3	371.6	390.1
80°	170.1	203.5	269.2	321.2	341.4
82.5°	106.9	148.2	218.4	272.9	290.6
85°	54.5	100.7	173.0	228.7	248.9
87.5°	14.4	65.2	134.6	187.8	208.5
90°	0.4	37.6	102.0	153.2	171.7
92.5°	0.4	21.1	76.0	121.8	140.8
95°	0.4	9.9	52.8	95.8	110.6
97.5°	0.4	4.1	36.3	72.2	87.1
100°	0.4	2.1	23.1	52.4	65.2
102.5°	0.8	1.2	14.4	37.6	47.9
105°	0.8	1.2	8.7	25.6	34.3
107.5°	0.8	1.2	5.0	17.3	23.5
110°	1.2	1.2	2.9	10.7	15.7

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CATALOG NUMBER: HVL8-2-LD4-3HI-30-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	1.2	1.7	7.0	10.3
115°	1.2	1.2	1.7	4.5	6.6
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)