

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: P517992

Luminaire Tested: HVL8-2-LD4-3LO-50-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: P517992
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-3LO-50-UNV-C-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4388.0 lumens
Efficiency: N/A
Efficacy: 130.2 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

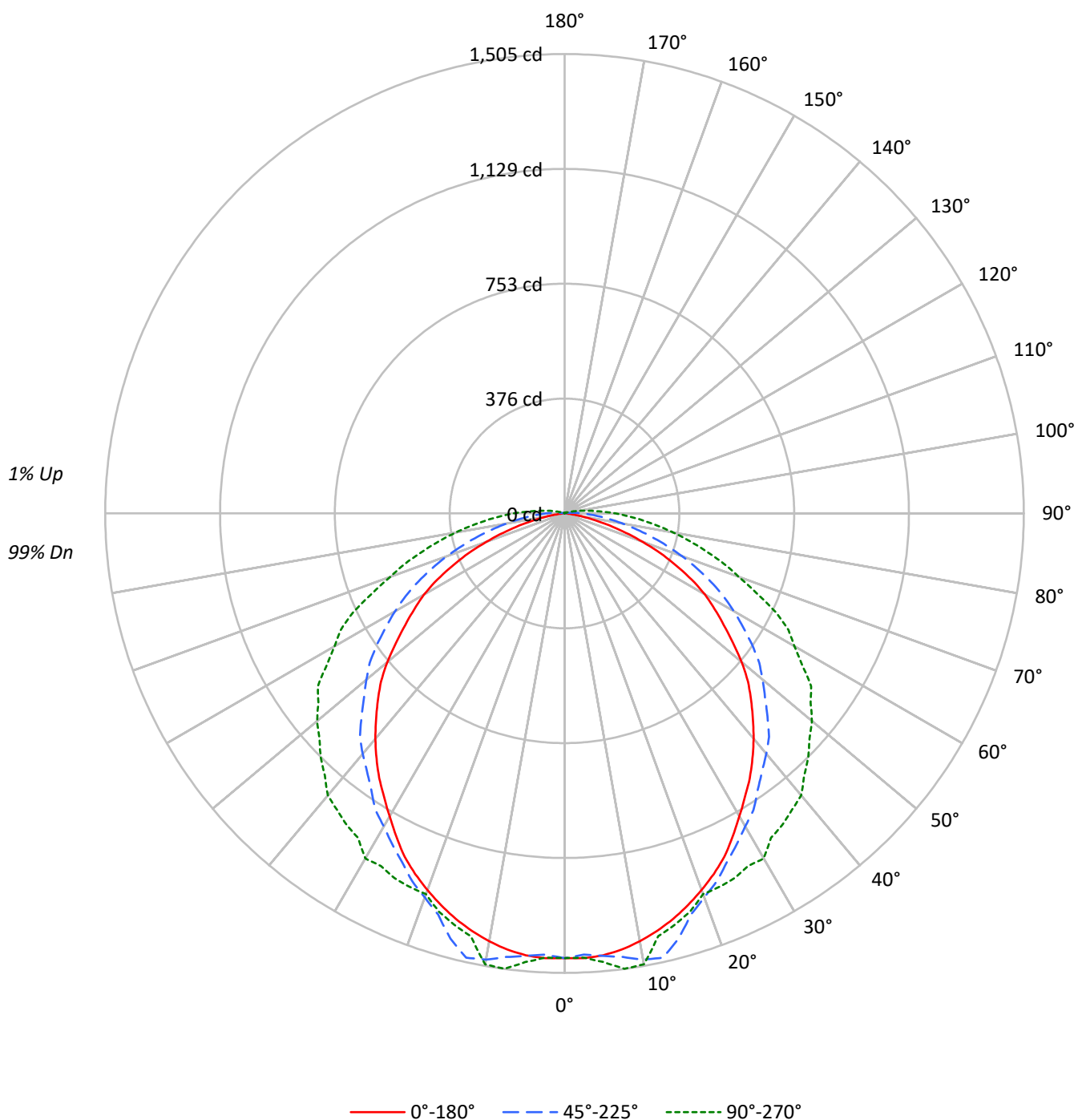
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	11759	11759	11759
5°	11690	11554	11702
10°	11494	11681	11774
15°	11243	11336	10928
20°	10948	10593	10451
25°	10637	10109	10517
30°	10189	9714	10633
35°	9856	9339	10444
40°	9498	9051	10509
45°	9115	8687	10320
50°	8657	8305	10241
55°	8012	7898	10235
60°	7493	7351	9798
65°	6534	6705	9486
70°	5232	5879	8507
75°	3628	4888	7766
80°	1938	3895	6971
85°	645	2878	6141

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 10320 cd/sqm

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CATALOG NUMBER: HVL8-2-LD4-3LO-50-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.0	3.2
10°-20°	398.7	9.1
20°-30°	593.2	13.5
30°-40°	713.0	16.2
40°-50°	750.5	17.1
50°-60°	696.4	15.9
60°-70°	550.6	12.5
70°-80°	336.3	7.7
80°-90°	146.5	3.3
90°-100°	45.6	1.0
100°-110°	10.2	0.2
110°-120°	4.1	0.1
120°-130°	2.3	0.1
130°-140°	0.6	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°	1131.8	25.8
0°-40°	1844.8	42.0
0°-60°	3291.6	75.0
0°-90°	4325.1	98.6
90°-120°	60.0	1.4
90°-150°	62.9	1.4
90°-180°	63.0	1.4
0°-180°	4388.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1457	1457	1457	1457	1457	
5°	1453	1450	1455	1471	1476	138
15°	1375	1428	1442	1394	1395	387
25°	1241	1320	1260	1297	1318	570
35°	1058	1088	1104	1204	1245	661
45°	865	869	940	1089	1130	667
55°	637	647	750	914	987	572
65°	403	416	528	699	763	399
75°	152	202	295	453	481	166
85°	14	48	115	223	256	21
90°	0	14	60	141	166	1
95°	0	4	26	77	95	0
105°	0	2	5	15	21	0
115°	0	1	4	7	7	0
125°	0	1	2	4	6	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: P517992

CATALOG NUMBER: HVL8-2-LD4-3LO-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1456.6	1456.6	1456.6	1456.6	1456.6
2.5°	1458.4	1454.5	1446.5	1454.2	1456.3
5°	1453.0	1450.0	1455.1	1471.4	1475.6
7.5°	1440.9	1452.1	1465.5	1495.2	1504.6
10°	1422.8	1444.1	1484.2	1509.4	1499.6
12.5°	1400.8	1437.0	1490.7	1441.4	1418.6
15°	1375.3	1428.1	1442.0	1394.3	1395.2
17.5°	1345.3	1420.7	1377.7	1376.5	1367.9
20°	1313.0	1395.8	1338.8	1336.4	1327.2
22.5°	1278.3	1362.8	1304.4	1299.6	1324.5
25°	1240.6	1319.8	1259.6	1297.2	1318.3
27.5°	1193.4	1263.4	1222.2	1275.6	1302.0
30°	1145.6	1205.3	1183.9	1258.4	1305.3
32.5°	1100.8	1144.4	1152.4	1251.8	1259.6
35°	1058.4	1087.8	1104.1	1204.4	1245.3
37.5°	1011.8	1019.8	1063.1	1184.5	1224.0
40°	964.3	959.3	1028.7	1151.9	1206.4
42.5°	913.3	911.5	992.2	1135.5	1162.8
45°	864.9	868.8	940.3	1089.2	1129.9
47.5°	815.4	820.4	891.0	1038.5	1088.9
50°	757.8	764.3	847.1	993.4	1058.4
52.5°	695.5	708.0	804.4	950.7	1016.3
55°	637.0	647.4	750.1	914.2	986.9
57.5°	583.6	589.9	694.0	868.2	923.1
60°	531.1	532.6	641.2	817.2	869.7
62.5°	470.9	473.6	586.9	756.9	827.2
65°	403.2	416.0	528.5	699.4	762.9
67.5°	340.0	362.3	468.8	646.5	679.8
70°	272.4	310.1	410.4	584.5	608.0
72.5°	210.4	254.6	350.4	515.1	548.0
75°	152.5	202.1	294.6	452.8	481.3
77.5°	102.7	153.1	242.4	384.0	421.6
80°	61.4	111.9	195.8	320.2	362.6
82.5°	31.5	75.1	151.9	268.5	306.5
85°	13.6	47.5	114.8	222.8	255.8
87.5°	3.9	27.0	84.6	180.1	208.0
90°	0.3	14.2	60.2	141.2	166.5
92.5°	0.3	6.8	42.4	106.8	126.1
95°	0.3	3.6	26.4	77.4	94.7
97.5°	0.3	2.1	16.0	54.9	69.4
100°	0.3	1.8	9.5	36.5	49.6
102.5°	0.3	2.1	6.5	23.1	32.3
105°	0.3	2.1	5.3	15.1	21.4
107.5°	0.6	2.1	4.7	11.3	14.8
110°	0.3	1.8	5.0	8.6	11.6

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CATALOG NUMBER: HVL8-2-LD4-3LO-50-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.6	1.5	4.7	7.1	8.6
115°	0.3	1.2	4.2	6.8	7.1
117.5°	0.6	0.9	3.3	6.8	7.1
120°	0.6	0.6	2.7	6.5	7.4
122.5°	0.6	0.6	2.1	5.9	7.1
125°	0.3	0.6	1.8	4.5	6.2
127.5°	0.6	0.6	1.5	3.6	4.7
130°	0.6	0.6	1.2	2.7	3.6
132.5°	0.6	0.6	0.9	2.1	2.7
135°	0.6	0.6	0.6	1.5	2.1
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)