

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: P518176

Luminaire Tested: HVL8-8-LD4-1LO-35-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: P518176
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-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4775.0 lumens
Efficiency: N/A
Efficacy: 103.8 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

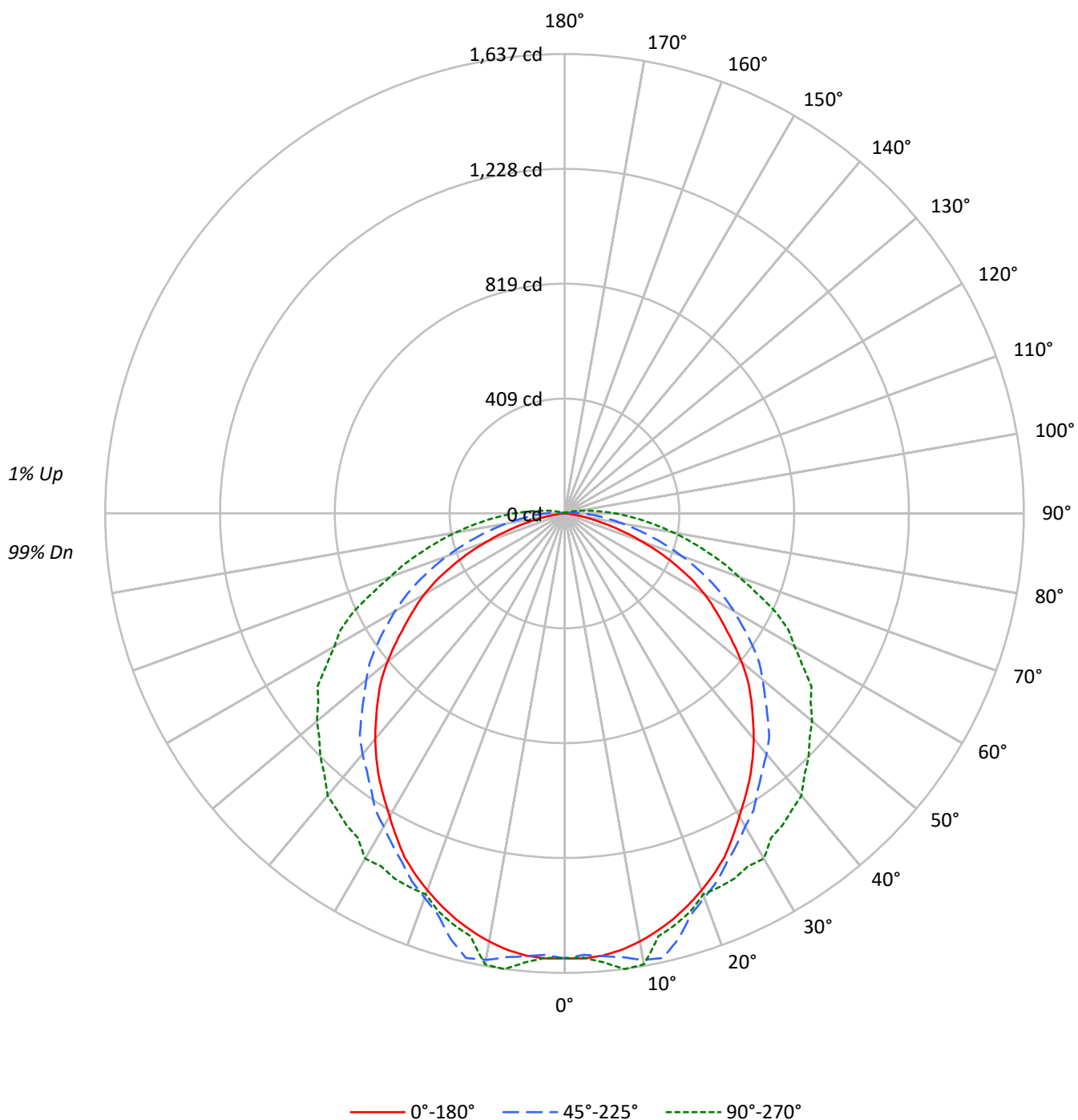
Input Watts (W): 46
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	3199	3199	3199
5°	3198	3155	3183
10°	3161	3202	3203
15°	3110	3119	2973
20°	3046	2925	2843
25°	2977	2802	2861
30°	2871	2703	2893
35°	2797	2610	2841
40°	2717	2541	2859
45°	2632	2451	2807
50°	2526	2356	2786
55°	2369	2255	2784
60°	2252	2115	2666
65°	2006	1947	2580
70°	1654	1726	2314
75°	1201	1458	2112
80°	694	1187	1897
85°	279	908	1670

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 2807 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.3	3.2
10°-20°	433.8	9.1
20°-30°	645.5	13.5
30°-40°	775.9	16.2
40°-50°	816.6	17.1
50°-60°	757.8	15.9
60°-70°	599.1	12.5
70°-80°	366.0	7.7
80°-90°	159.5	3.3
90°-100°	49.6	1.0
100°-110°	11.2	0.2
110°-120°	4.5	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°	1231.7	25.8
0°-40°	2007.5	42.0
0°-60°	3581.9	75.0
0°-90°	4706.5	98.6
90°-120°	65.3	1.4
90°-150°	68.4	1.4
90°-180°	68.0	1.4
0°-180°	4775.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1585	1585	1585	1585	1585	
5°	1581	1578	1583	1601	1606	150
15°	1497	1554	1569	1517	1518	422
25°	1350	1436	1371	1412	1435	620
35°	1152	1184	1202	1311	1355	720
45°	941	945	1023	1185	1230	726
55°	693	704	816	995	1074	623
65°	439	453	575	761	830	435
75°	166	220	321	493	524	181
85°	15	52	125	242	278	23
90°	0	16	66	154	181	1
95°	0	4	29	84	103	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

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CATALOG NUMBER: HVL8-8-LD4-1LO-35-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1585.0	1585.0	1585.0	1585.0	1585.0
2.5°	1587.0	1582.8	1574.1	1582.5	1584.7
5°	1581.2	1577.9	1583.4	1601.2	1605.7
7.5°	1567.9	1580.2	1594.7	1627.0	1637.3
10°	1548.2	1571.5	1615.1	1642.5	1631.9
12.5°	1524.3	1563.7	1622.2	1568.6	1543.7
15°	1496.6	1554.0	1569.2	1517.2	1518.2
17.5°	1464.0	1546.0	1499.2	1497.9	1488.5
20°	1428.8	1518.8	1456.9	1454.3	1444.3
22.5°	1391.0	1483.0	1419.4	1414.2	1441.4
25°	1350.0	1436.2	1370.6	1411.7	1434.6
27.5°	1298.6	1374.8	1330.0	1388.1	1416.8
30°	1246.7	1311.6	1288.3	1369.4	1420.4
32.5°	1197.9	1245.4	1254.1	1362.2	1370.6
35°	1151.7	1183.7	1201.5	1310.6	1355.1
37.5°	1101.0	1109.8	1156.9	1289.0	1331.9
40°	1049.4	1043.9	1119.4	1253.4	1312.8
42.5°	993.8	991.9	1079.7	1235.7	1265.4
45°	941.2	945.4	1023.2	1185.3	1229.5
47.5°	887.3	892.8	969.6	1130.1	1185.0
50°	824.6	831.8	921.8	1081.0	1151.7
52.5°	756.8	770.4	875.3	1034.5	1105.9
55°	693.2	704.5	816.3	994.8	1073.9
57.5°	635.1	641.9	755.2	944.8	1004.5
60°	578.0	579.6	697.8	889.2	946.4
62.5°	512.4	515.3	638.7	823.7	900.2
65°	438.8	452.7	575.1	761.0	830.1
67.5°	370.0	394.2	510.2	703.6	739.7
70°	296.4	337.4	446.5	636.1	661.6
72.5°	228.9	277.0	381.3	560.5	596.4
75°	166.0	219.9	320.6	492.7	523.7
77.5°	111.7	166.6	263.8	417.8	458.8
80°	66.8	121.7	213.1	348.4	394.6
82.5°	34.2	81.7	165.3	292.2	333.5
85°	14.9	51.7	125.0	242.5	278.3
87.5°	4.2	29.4	92.0	196.0	226.3
90°	0.3	15.5	65.5	153.7	181.1
92.5°	0.3	7.4	46.2	116.2	137.2
95°	0.3	3.9	28.7	84.3	103.0
97.5°	0.3	2.3	17.4	59.7	75.6
100°	0.3	1.9	10.3	39.7	53.9
102.5°	0.3	2.3	7.1	25.2	35.2
105°	0.3	2.3	5.8	16.5	23.2
107.5°	0.6	2.3	5.2	12.3	16.1
110°	0.3	1.9	5.5	9.4	12.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.6	1.6	5.2	7.7	9.4
115°	0.3	1.3	4.5	7.4	7.7
117.5°	0.6	1.0	3.6	7.4	7.7
120°	0.6	0.6	2.9	7.1	8.1
122.5°	0.6	0.6	2.3	6.5	7.7
125°	0.3	0.6	1.9	4.8	6.8
127.5°	0.6	0.6	1.6	3.9	5.2
130°	0.6	0.6	1.3	2.9	3.9
132.5°	0.6	0.6	1.0	2.3	2.9
135°	0.6	0.6	0.6	1.6	2.3
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)