

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: P518182

Luminaire Tested: HVL8-8-LD4-1LO-40-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: P518182
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1LO-40-UNV-O-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4385.0 lumens
Efficiency: N/A
Efficacy: 95.3 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

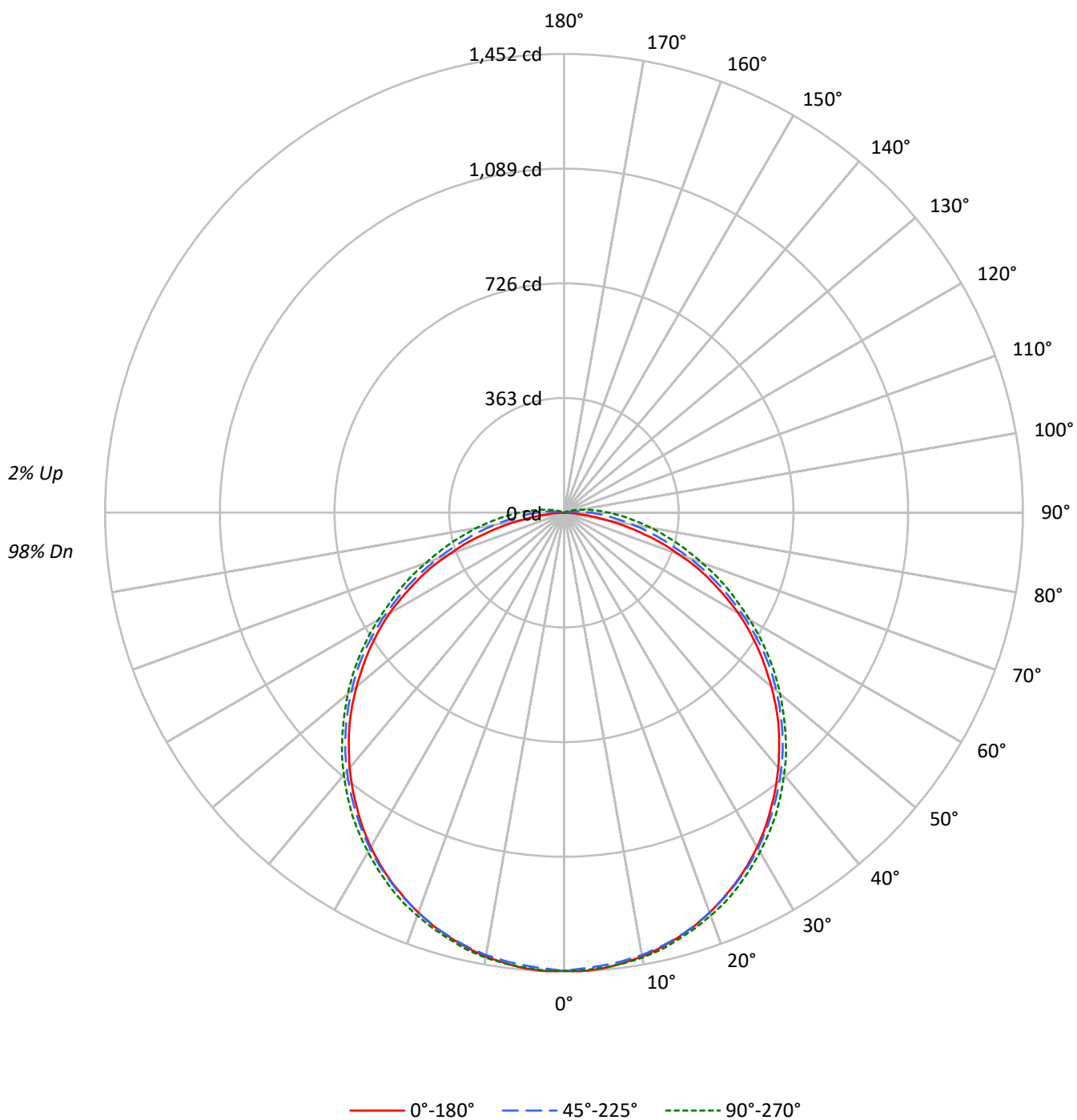
Input Watts (W): 46
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

TEST NUMBER: P518182

CATALOG NUMBER: HVL8-8-LD4-1LO-40-UNV-O-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P518182

CATALOG NUMBER: HVL8-8-LD4-1LO-40-UNV-O-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		0
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		98
1	108	102	98	94	105	100	96	92	95	92	89		91	88	86		81
2	98	89	82	76	95	87	80	75	83	77	73		79	75	71		67
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		56
4	81	69	60	53	79	67	59	52	65	57	52		62	56	51		47
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		41
6	69	55	46	40	67	54	46	39	52	45	39		50	44	38		36
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		32
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		28
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		25
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2927	2927	2927
5°	2927	2865	2864
10°	2913	2817	2807
15°	2893	2764	2738
20°	2871	2704	2671
25°	2845	2642	2603
30°	2814	2576	2526
35°	2773	2502	2449
40°	2731	2425	2360
45°	2686	2341	2264
50°	2626	2243	2160
55°	2562	2135	2046
60°	2486	1994	1912
65°	2355	1835	1780
70°	2164	1648	1627
75°	1888	1443	1487
80°	1465	1242	1359
85°	843	1040	1238

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2686 cd/sqm

TEST NUMBER: P518182

CATALOG NUMBER: HVL8-8-LD4-1LO-40-UNV-O-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.2	3.1
10°-20°	393.7	9.0
20°-30°	597.3	13.6
30°-40°	722.3	16.5
40°-50°	753.6	17.2
50°-60°	689.1	15.7
60°-70°	537.1	12.2
70°-80°	336.0	7.7
80°-90°	152.6	3.5
90°-100°	51.1	1.2
100°-110°	12.8	0.3
110°-120°	2.0	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°	1128.2	25.7
0°-40°	1850.5	42.2
0°-60°	3293.2	75.1
0°-90°	4319.0	98.5
90°-120°	66.0	1.5
90°-150°	66.0	1.5
90°-180°	66.0	1.5
0°-180°	4385.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1450	1450	1450	1450	1450	
5°	1447	1444	1438	1445	1445	137
15°	1392	1395	1391	1399	1398	393
25°	1290	1291	1292	1303	1305	594
35°	1142	1147	1152	1163	1168	715
45°	961	969	977	987	992	740
55°	750	759	773	784	789	670
65°	515	524	542	564	573	510
75°	261	277	317	355	369	278
85°	45	83	143	189	206	57
90°	0	31	84	127	142	2
95°	0	8	44	79	92	0
105°	1	1	7	21	28	1
115°	1	1	1	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

TEST NUMBER: P518182

CATALOG NUMBER: HVL8-8-LD4-1LO-40-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1450.3	1450.3	1450.3	1450.3	1450.3
2.5°	1452.0	1450.0	1443.5	1450.0	1449.6
5°	1447.2	1444.5	1438.0	1444.8	1444.8
7.5°	1437.6	1436.6	1430.8	1438.7	1438.7
10°	1426.4	1426.0	1421.2	1429.8	1430.1
12.5°	1410.6	1412.0	1407.6	1415.8	1416.8
15°	1392.2	1394.6	1390.8	1398.7	1398.3
17.5°	1372.0	1373.4	1370.6	1379.5	1379.2
20°	1347.0	1348.8	1346.7	1355.9	1357.0
22.5°	1319.3	1321.7	1321.4	1331.0	1333.7
25°	1289.9	1291.0	1292.3	1303.3	1305.3
27.5°	1257.5	1259.2	1261.6	1271.5	1273.5
30°	1221.9	1224.6	1227.4	1237.6	1240.4
32.5°	1184.3	1187.0	1190.5	1203.8	1205.2
35°	1141.9	1147.0	1151.8	1163.4	1168.2
37.5°	1099.5	1106.0	1110.5	1122.8	1126.5
40°	1054.7	1061.2	1068.4	1081.4	1083.8
42.5°	1007.9	1015.4	1024.0	1035.6	1039.7
45°	960.7	969.3	977.1	986.7	991.5
47.5°	909.8	918.3	927.9	938.8	941.9
50°	857.1	867.0	877.3	887.5	893.0
52.5°	803.1	815.1	826.7	837.6	842.8
55°	749.8	758.7	772.7	784.0	789.1
57.5°	694.4	701.9	714.5	733.0	735.7
60°	638.0	644.8	657.8	672.8	679.0
62.5°	575.7	585.0	598.6	617.8	623.3
65°	515.2	524.1	542.2	563.8	572.7
67.5°	456.8	459.8	483.1	505.7	520.0
70°	387.7	399.3	426.3	454.0	465.0
72.5°	328.2	339.8	369.6	402.1	415.7
75°	260.9	276.9	317.3	355.2	368.6
77.5°	201.7	219.5	269.4	307.7	323.1
80°	140.9	168.6	222.9	266.0	282.7
82.5°	88.5	122.7	180.9	226.0	240.7
85°	45.1	83.4	143.3	189.4	206.2
87.5°	12.0	54.0	111.5	155.6	172.7
90°	0.3	31.1	84.4	126.8	142.2
92.5°	0.3	17.4	62.9	100.9	116.6
95°	0.3	8.2	43.8	79.3	91.6
97.5°	0.3	3.4	30.1	59.8	72.1
100°	0.3	1.7	19.1	43.4	54.0
102.5°	0.7	1.0	12.0	31.1	39.7
105°	0.7	1.0	7.2	21.2	28.4
107.5°	0.7	1.0	4.1	14.4	19.5
110°	1.0	1.0	2.4	8.9	13.0

TEST NUMBER: P518182

CATALOG NUMBER: HVL8-8-LD4-1LO-40-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	1.0	1.4	5.8	8.5
115°	1.0	1.0	1.4	3.8	5.5
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)