

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: P518009

Luminaire Tested: HVL8-2-LD4-3STD-50-UNV-O-EDD-90

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: P518009
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-3STD-50-UNV-O-EDD-90
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5119.0 lumens
Efficiency: N/A
Efficacy: 107.1 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

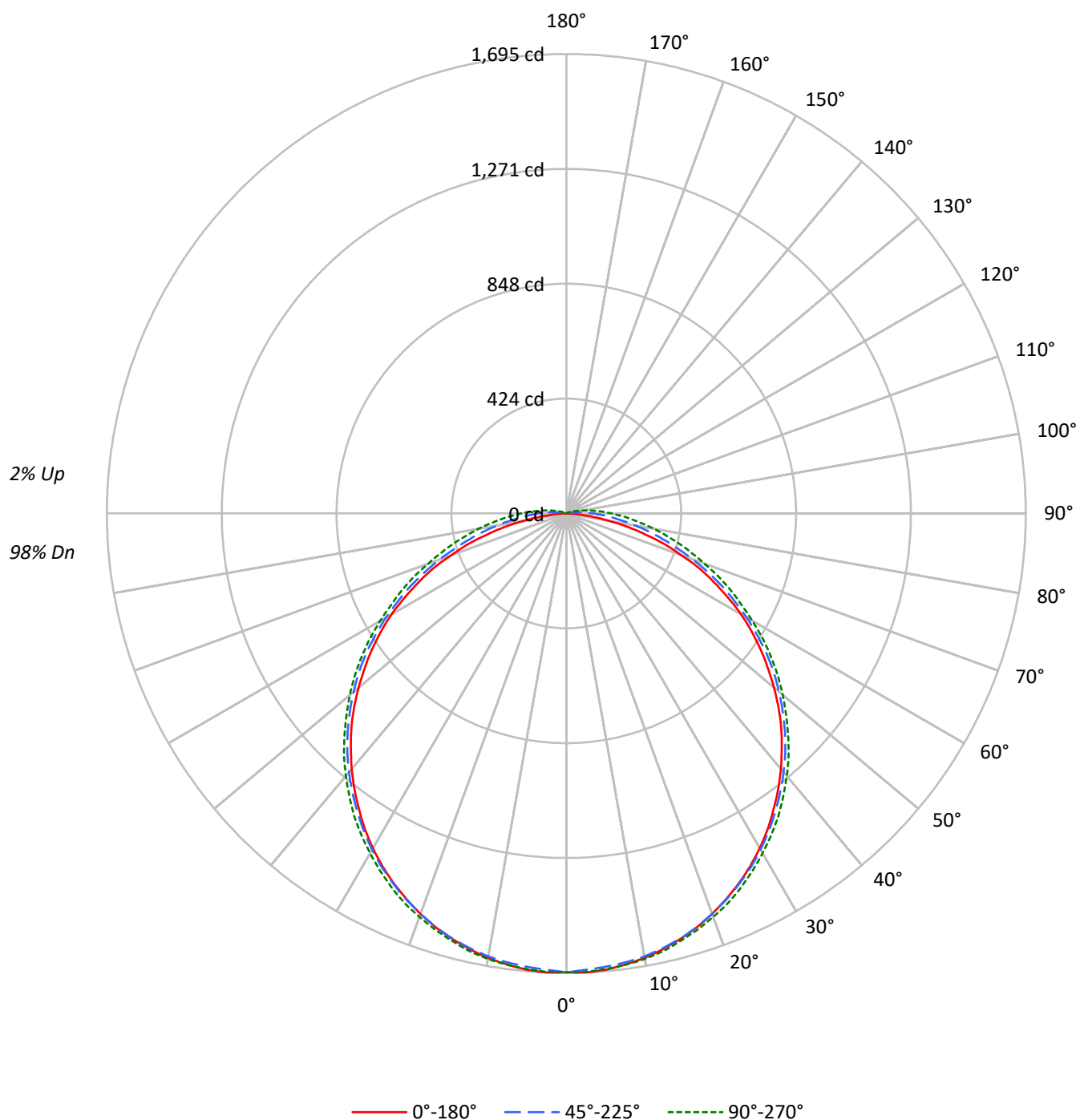
Input Watts (W): 47.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	13668	13668	13668
5°	13592	13329	13376
10°	13452	13058	13108
15°	13286	12763	12786
20°	13112	12439	12474
25°	12912	12108	12156
30°	12686	11756	11795
35°	12414	11374	11438
40°	12128	10973	11021
45°	11819	10539	10571
50°	11431	10041	10087
55°	11009	9498	9554
60°	10508	8804	8930
65°	9748	8031	8312
70°	8692	7130	7595
75°	7244	6146	6941
80°	5190	5176	6346
85°	2500	4192	5779

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 11819 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.2	3.1
10°-20°	459.6	9.0
20°-30°	697.3	13.6
30°-40°	843.2	16.5
40°-50°	879.8	17.2
50°-60°	804.4	15.7
60°-70°	627.1	12.2
70°-80°	392.3	7.7
80°-90°	178.2	3.5
90°-100°	59.7	1.2
100°-110°	15.0	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°	1317.1	25.7
0°-40°	2160.3	42.2
0°-60°	3844.5	75.1
0°-90°	5041.9	98.5
90°-120°	77.1	1.5
90°-150°	77.1	1.5
90°-180°	77.0	1.5
0°-180°	5119.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1693	1693	1693	1693	1693	
5°	1690	1686	1679	1687	1687	160
15°	1625	1628	1624	1633	1632	459
25°	1506	1507	1509	1521	1524	694
35°	1333	1339	1345	1358	1364	834
45°	1122	1132	1141	1152	1157	864
55°	875	886	902	915	921	782
65°	602	612	633	658	668	595
75°	304	323	370	415	430	325
85°	53	97	167	221	241	67
90°	0	36	99	148	166	2
95°	0	10	51	93	107	0
105°	1	1	8	25	33	1
115°	1	1	2	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

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CATALOG NUMBER: HVL8-2-LD4-3STD-50-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1693.1	1693.1	1693.1	1693.1	1693.1
2.5°	1695.1	1692.7	1685.1	1692.7	1692.3
5°	1689.5	1686.3	1678.7	1686.7	1686.7
7.5°	1678.3	1677.1	1670.3	1679.5	1679.5
10°	1665.1	1664.7	1659.1	1669.1	1669.5
12.5°	1646.8	1648.4	1643.2	1652.7	1653.9
15°	1625.2	1628.0	1623.6	1632.8	1632.4
17.5°	1601.7	1603.3	1600.1	1610.4	1610.0
20°	1572.5	1574.5	1572.1	1582.9	1584.1
22.5°	1540.2	1543.0	1542.6	1553.8	1557.0
25°	1505.9	1507.1	1508.7	1521.4	1523.8
27.5°	1468.0	1469.9	1472.7	1484.3	1486.7
30°	1426.4	1429.6	1432.8	1444.8	1448.0
32.5°	1382.5	1385.7	1389.7	1405.3	1406.9
35°	1333.1	1339.0	1344.6	1358.2	1363.8
37.5°	1283.6	1291.1	1296.3	1310.7	1315.1
40°	1231.3	1238.9	1247.2	1262.4	1265.2
42.5°	1176.6	1185.4	1195.4	1208.9	1213.7
45°	1121.5	1131.5	1140.7	1151.9	1157.4
47.5°	1062.1	1072.0	1083.2	1096.0	1099.6
50°	1000.6	1012.2	1024.1	1036.1	1042.5
52.5°	937.5	951.5	965.1	977.8	983.8
55°	875.3	885.6	902.0	915.2	921.2
57.5°	810.6	819.4	834.2	855.7	858.9
60°	744.8	752.7	767.9	785.5	792.6
62.5°	672.1	682.9	698.9	721.2	727.6
65°	601.5	611.8	633.0	658.1	668.5
67.5°	533.2	536.8	564.0	590.3	607.1
70°	452.6	466.2	497.7	530.0	542.8
72.5°	383.2	396.7	431.4	469.4	485.3
75°	304.5	323.3	370.4	414.7	430.2
77.5°	235.5	256.2	314.5	359.2	377.2
80°	164.4	196.8	260.2	310.5	330.1
82.5°	103.4	143.3	211.1	263.8	281.0
85°	52.7	97.4	167.2	221.1	240.7
87.5°	14.0	63.1	130.1	181.6	201.6
90°	0.4	36.3	98.6	148.1	166.0
92.5°	0.4	20.4	73.4	117.7	136.1
95°	0.4	9.6	51.1	92.6	107.0
97.5°	0.4	4.0	35.1	69.8	84.2
100°	0.4	2.0	22.4	50.7	63.1
102.5°	0.8	1.2	14.0	36.3	46.3
105°	0.8	1.2	8.4	24.7	33.1
107.5°	0.8	1.2	4.8	16.8	22.7
110°	1.2	1.2	2.8	10.4	15.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	1.2	1.6	6.8	10.0
115°	1.2	1.2	1.6	4.4	6.4
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)