

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: P517928

Luminaire Tested: HVL8-2-LD4-2HI-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: P517928
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-2HI-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: 4613.0 lumens
Efficiency: N/A
Efficacy: 107.0 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

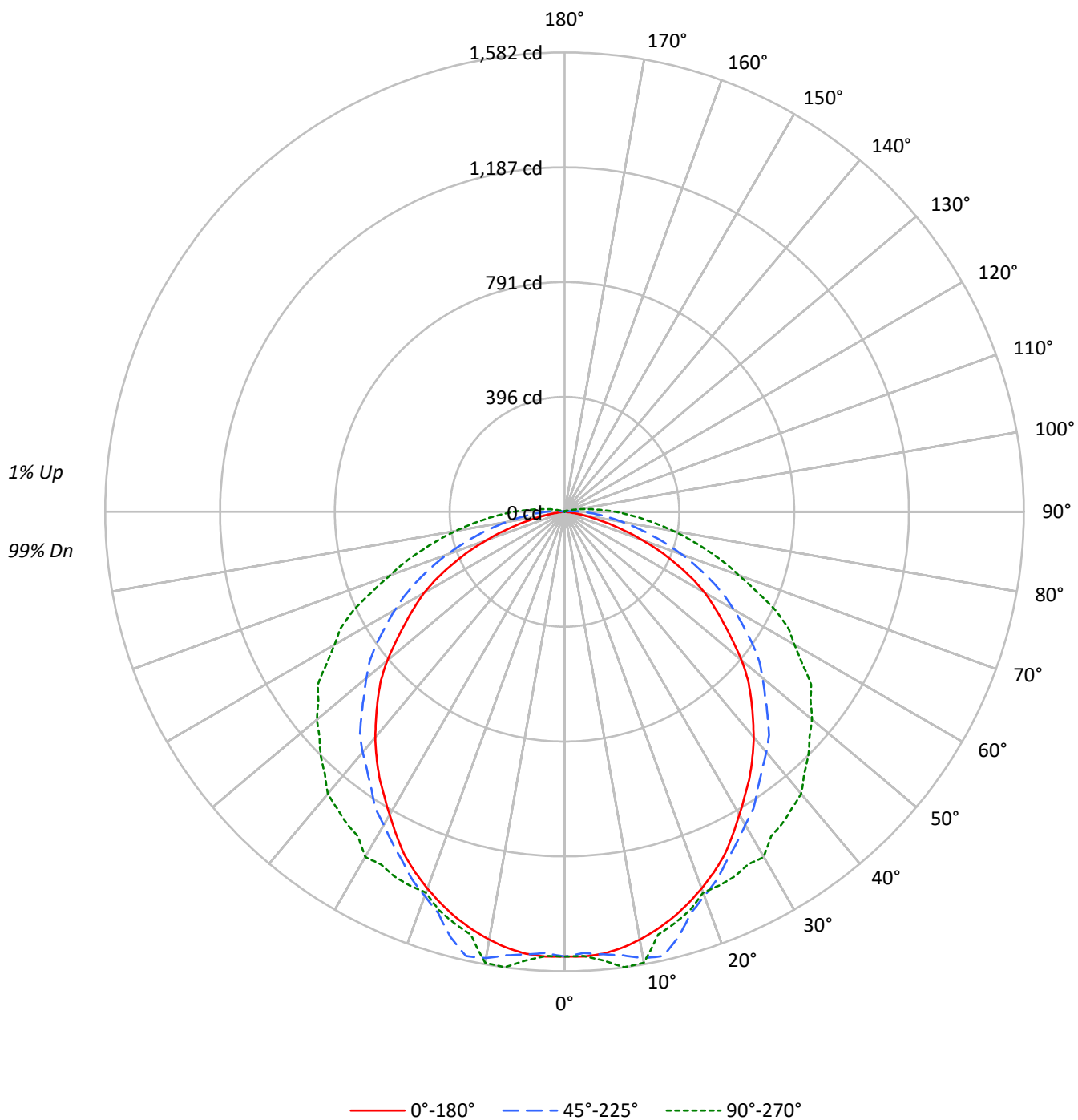
Input Watts (W): 43.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	12362	12362	12362
5°	12289	12146	12301
10°	12083	12280	12378
15°	11820	11917	11489
20°	11509	11136	10987
25°	11183	10626	11056
30°	10712	10212	11178
35°	10361	9818	10980
40°	9986	9515	11048
45°	9583	9133	10848
50°	9102	8732	10766
55°	8423	8304	10760
60°	7878	7728	10301
65°	6870	7048	9972
70°	5500	6180	8942
75°	3814	5139	8164
80°	2039	4096	7329
85°	678	3026	6456

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 10848 cd/sqm

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CATALOG NUMBER: HVL8-2-LD4-2HI-50-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.2	3.2
10°-20°	419.1	9.1
20°-30°	623.6	13.5
30°-40°	749.5	16.2
40°-50°	789.0	17.1
50°-60°	732.1	15.9
60°-70°	578.8	12.5
70°-80°	353.6	7.7
80°-90°	154.0	3.3
90°-100°	48.0	1.0
100°-110°	10.8	0.2
110°-120°	4.3	0.1
120°-130°	2.4	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°	1189.9	25.8
0°-40°	1939.4	42.0
0°-60°	3460.4	75.0
0°-90°	4546.8	98.6
90°-120°	63.1	1.4
90°-150°	66.1	1.4
90°-180°	66.0	1.4
0°-180°	4613.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1531	1531	1531	1531	1531	
5°	1528	1524	1530	1547	1551	145
15°	1446	1501	1516	1466	1467	407
25°	1304	1388	1324	1364	1386	599
35°	1113	1144	1161	1266	1309	695
45°	909	913	988	1145	1188	701
55°	670	681	789	961	1038	602
65°	424	437	556	735	802	420
75°	160	212	310	476	506	175
85°	14	50	121	234	269	22
90°	0	15	63	148	175	1
95°	0	4	28	81	100	0
105°	0	2	6	16	22	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: HVL8-2-LD4-2HI-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1531.3	1531.3	1531.3	1531.3	1531.3
2.5°	1533.1	1529.1	1520.7	1528.8	1531.0
5°	1527.5	1524.4	1529.7	1546.9	1551.2
7.5°	1514.7	1526.6	1540.6	1571.8	1581.8
10°	1495.7	1518.2	1560.3	1586.8	1576.5
12.5°	1472.6	1510.7	1567.1	1515.4	1491.3
15°	1445.8	1501.3	1516.0	1465.8	1466.7
17.5°	1414.3	1493.5	1448.3	1447.0	1438.0
20°	1380.3	1467.3	1407.4	1404.9	1395.3
22.5°	1343.8	1432.7	1371.2	1366.3	1392.5
25°	1304.2	1387.5	1324.1	1363.8	1385.9
27.5°	1254.6	1328.2	1284.8	1341.0	1368.7
30°	1204.4	1267.1	1244.6	1322.9	1372.2
32.5°	1157.3	1203.1	1211.5	1316.0	1324.1
35°	1112.7	1143.5	1160.7	1266.1	1309.2
37.5°	1063.7	1072.1	1117.6	1245.2	1286.7
40°	1013.8	1008.5	1081.5	1210.9	1268.3
42.5°	960.1	958.2	1043.1	1193.8	1222.5
45°	909.3	913.3	988.5	1145.1	1187.8
47.5°	857.2	862.5	936.7	1091.8	1144.8
50°	796.7	803.5	890.6	1044.3	1112.7
52.5°	731.2	744.3	845.6	999.4	1068.4
55°	669.7	680.6	788.6	961.1	1037.5
57.5°	613.6	620.1	729.6	912.7	970.4
60°	558.4	559.9	674.1	859.1	914.3
62.5°	495.0	497.8	617.0	795.7	869.7
65°	423.9	437.3	555.5	735.2	802.0
67.5°	357.5	380.9	492.8	679.7	714.6
70°	286.4	326.0	431.4	614.5	639.1
72.5°	221.2	267.6	368.4	541.5	576.1
75°	160.3	212.4	309.7	476.0	506.0
77.5°	107.9	161.0	254.8	403.6	443.3
80°	64.6	117.6	205.9	336.6	381.2
82.5°	33.1	78.9	159.7	282.3	322.2
85°	14.3	49.9	120.7	234.3	268.9
87.5°	4.1	28.4	88.9	189.3	218.7
90°	0.3	15.0	63.3	148.5	175.0
92.5°	0.3	7.2	44.6	112.3	132.6
95°	0.3	3.7	27.8	81.4	99.5
97.5°	0.3	2.2	16.8	57.7	73.0
100°	0.3	1.9	10.0	38.4	52.1
102.5°	0.3	2.2	6.9	24.3	34.0
105°	0.3	2.2	5.6	15.9	22.5
107.5°	0.6	2.2	5.0	11.9	15.6
110°	0.3	1.9	5.3	9.0	12.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.6	1.6	5.0	7.5	9.0
115°	0.3	1.2	4.4	7.2	7.5
117.5°	0.6	0.9	3.4	7.2	7.5
120°	0.6	0.6	2.8	6.9	7.8
122.5°	0.6	0.6	2.2	6.2	7.5
125°	0.3	0.6	1.9	4.7	6.6
127.5°	0.6	0.6	1.6	3.7	5.0
130°	0.6	0.6	1.2	2.8	3.7
132.5°	0.6	0.6	0.9	2.2	2.8
135°	0.6	0.6	0.6	1.6	2.2
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)