

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: P517964

Luminaire Tested: HVL8-2-LD4-3HI-30-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: P517964
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-3HI-30-UNV-C-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6748.0 lumens
Efficiency: N/A
Efficacy: 107.1 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

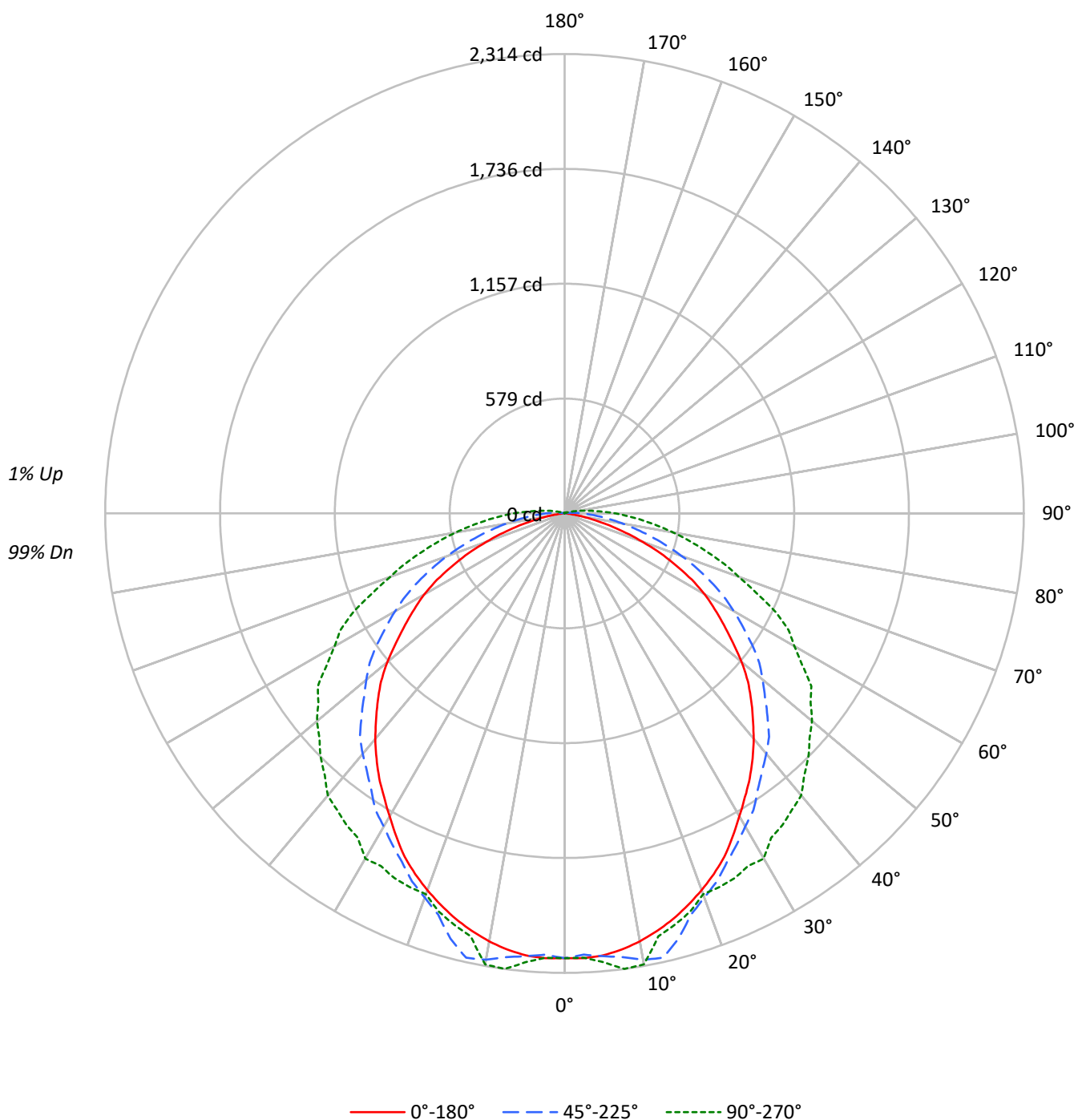
Input Watts (W): 63
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	18083	18083	18083
5°	17977	17767	17995
10°	17676	17963	18106
15°	17290	17433	16806
20°	16835	16289	16072
25°	16358	15545	16172
30°	15669	14938	16351
35°	15156	14362	16062
40°	14607	13919	16161
45°	14017	13359	15870
50°	13314	12772	15748
55°	12322	12146	15739
60°	11524	11305	15068
65°	10049	10311	14587
70°	8045	9041	13082
75°	5579	7518	11941
80°	2983	5992	10720
85°	996	4427	9443

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 15870 cd/sqm

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CATALOG NUMBER: HVL8-2-LD4-3HI-30-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	215.3	3.2
10°-20°	613.1	9.1
20°-30°	912.2	13.5
30°-40°	1096.5	16.2
40°-50°	1154.1	17.1
50°-60°	1070.9	15.9
60°-70°	846.7	12.5
70°-80°	517.2	7.7
80°-90°	225.3	3.3
90°-100°	70.2	1.0
100°-110°	15.8	0.2
110°-120°	6.3	0.1
120°-130°	3.6	0.1
130°-140°	1.0	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°	1740.6	25.8
0°-40°	2837.0	42.0
0°-60°	5062.0	75.0
0°-90°	6651.2	98.6
90°-120°	92.3	1.4
90°-150°	96.8	1.4
90°-180°	97.0	1.4
0°-180°	6748.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2240	2240	2240	2240	2240	
5°	2234	2230	2238	2263	2269	212
15°	2115	2196	2218	2144	2146	596
25°	1908	2030	1937	1995	2027	876
35°	1628	1673	1698	1852	1915	1017
45°	1330	1336	1446	1675	1738	1025
55°	980	996	1154	1406	1518	880
65°	620	640	813	1076	1173	614
75°	234	311	453	696	740	256
85°	21	73	177	343	393	32
90°	0	22	93	217	256	1
95°	0	6	41	119	146	0
105°	0	3	8	23	33	1
115°	0	2	6	10	11	1
125°	0	1	3	7	10	1
135°	1	1	1	2	3	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: P517964

CATALOG NUMBER: HVL8-2-LD4-3HI-30-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2240.0	2240.0	2240.0	2240.0	2240.0
2.5°	2242.7	2236.8	2224.5	2236.3	2239.5
5°	2234.5	2229.9	2237.7	2262.8	2269.2
7.5°	2215.8	2233.1	2253.7	2299.3	2313.9
10°	2188.0	2220.8	2282.4	2321.2	2306.1
12.5°	2154.2	2209.9	2292.4	2216.7	2181.6
15°	2114.9	2196.2	2217.6	2144.1	2145.5
17.5°	2068.9	2184.8	2118.6	2116.8	2103.5
20°	2019.1	2146.4	2058.8	2055.2	2041.0
22.5°	1965.7	2095.8	2005.9	1998.6	2036.9
25°	1907.8	2029.6	1937.0	1994.9	2027.3
27.5°	1835.2	1942.9	1879.5	1961.6	2002.2
30°	1761.8	1853.5	1820.6	1935.2	2007.3
32.5°	1692.9	1759.9	1772.3	1925.1	1937.0
35°	1627.6	1672.8	1697.9	1852.1	1915.1
37.5°	1556.0	1568.3	1634.9	1821.5	1882.2
40°	1483.0	1475.2	1582.0	1771.4	1855.3
42.5°	1404.5	1401.7	1525.9	1746.3	1788.2
45°	1330.1	1336.0	1446.0	1675.1	1737.6
47.5°	1253.9	1261.7	1370.3	1597.0	1674.6
50°	1165.4	1175.4	1302.7	1527.7	1627.6
52.5°	1069.6	1088.7	1237.0	1462.0	1562.8
55°	979.7	995.6	1153.5	1405.9	1517.6
57.5°	897.5	907.1	1067.3	1335.1	1419.5
60°	816.8	819.1	986.1	1256.6	1337.4
62.5°	724.1	728.3	902.6	1164.0	1272.2
65°	620.1	639.7	812.7	1075.5	1173.1
67.5°	522.9	557.1	721.0	994.3	1045.4
70°	418.9	476.8	631.1	898.9	935.0
72.5°	323.5	391.5	538.9	792.1	842.8
75°	234.5	310.7	453.1	696.3	740.1
77.5°	157.9	235.4	372.8	590.5	648.4
80°	94.5	172.0	301.2	492.3	557.6
82.5°	48.4	115.4	233.6	413.0	471.4
85°	21.0	73.0	176.6	342.7	393.3
87.5°	5.9	41.5	130.0	277.0	319.9
90°	0.5	21.9	92.6	217.2	256.0
92.5°	0.5	10.5	65.3	164.3	193.9
95°	0.5	5.5	40.6	119.1	145.6
97.5°	0.5	3.2	24.6	84.4	106.8
100°	0.5	2.7	14.6	56.1	76.2
102.5°	0.5	3.2	10.0	35.6	49.7
105°	0.5	3.2	8.2	23.3	32.9
107.5°	0.9	3.2	7.3	17.3	22.8
110°	0.5	2.7	7.8	13.2	17.8

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CATALOG NUMBER: HVL8-2-LD4-3HI-30-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.9	2.3	7.3	11.0	13.2
115°	0.5	1.8	6.4	10.5	11.0
117.5°	0.9	1.4	5.0	10.5	11.0
120°	0.9	0.9	4.1	10.0	11.4
122.5°	0.9	0.9	3.2	9.1	11.0
125°	0.5	0.9	2.7	6.8	9.6
127.5°	0.9	0.9	2.3	5.5	7.3
130°	0.9	0.9	1.8	4.1	5.5
132.5°	0.9	0.9	1.4	3.2	4.1
135°	0.9	0.9	0.9	2.3	3.2
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)