

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: P518188

Luminaire Tested: HVL8-8-LD4-1STD-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: P518188
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1STD-30-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6070.0 lumens
Efficiency: N/A
Efficacy: 93.1 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

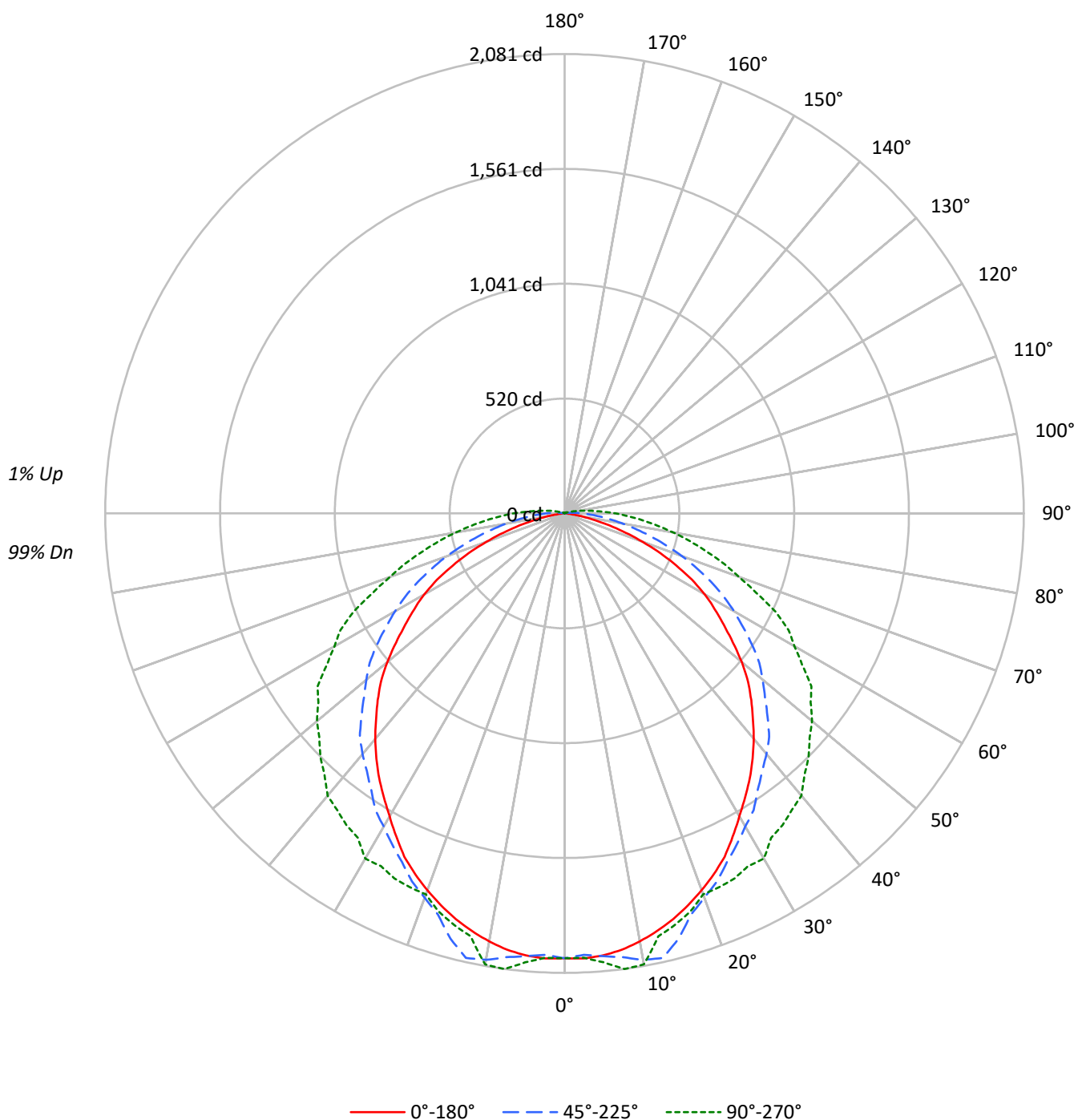
Input Watts (W): 65.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	4067	4067	4067
5°	4065	4011	4047
10°	4019	4070	4072
15°	3953	3965	3779
20°	3872	3718	3614
25°	3785	3562	3637
30°	3649	3437	3677
35°	3555	3318	3612
40°	3454	3230	3634
45°	3345	3116	3569
50°	3212	2995	3542
55°	3011	2867	3540
60°	2862	2688	3388
65°	2550	2474	3281
70°	2103	2195	2942
75°	1527	1853	2686
80°	884	1509	2411
85°	353	1153	2124

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 3569 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.7	3.2
10°-20°	551.5	9.1
20°-30°	820.6	13.5
30°-40°	986.3	16.2
40°-50°	1038.1	17.1
50°-60°	963.3	15.9
60°-70°	761.6	12.5
70°-80°	465.2	7.7
80°-90°	202.7	3.3
90°-100°	63.1	1.0
100°-110°	14.2	0.2
110°-120°	5.7	0.1
120°-130°	3.2	0.1
130°-140°	0.9	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°	1565.7	25.8
0°-40°	2552.0	42.0
0°-60°	4553.4	75.0
0°-90°	5983.0	98.6
90°-120°	83.0	1.4
90°-150°	87.0	1.4
90°-180°	87.0	1.4
0°-180°	6070.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2015	2015	2015	2015	2015	
5°	2010	2006	2013	2035	2041	190
15°	1902	1976	1995	1929	1930	536
25°	1716	1826	1742	1794	1824	788
35°	1464	1505	1527	1666	1723	915
45°	1196	1202	1301	1507	1563	922
55°	881	896	1038	1265	1365	792
65°	558	576	731	967	1055	552
75°	211	280	408	626	666	230
85°	19	66	159	308	354	29
90°	0	20	83	195	230	1
95°	0	5	36	107	131	0
105°	0	3	7	21	30	1
115°	0	2	6	9	10	1
125°	0	1	2	6	9	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2014.9	2014.9	2014.9	2014.9	2014.9
2.5°	2017.4	2012.0	2001.0	2011.6	2014.5
5°	2010.0	2005.9	2012.9	2035.4	2041.2
7.5°	1993.2	2008.8	2027.2	2068.3	2081.4
10°	1968.1	1997.7	2053.1	2088.0	2074.4
12.5°	1937.7	1987.8	2062.1	1994.0	1962.4
15°	1902.4	1975.5	1994.8	1928.7	1929.9
17.5°	1861.0	1965.2	1905.7	1904.1	1892.2
20°	1816.3	1930.8	1852.0	1848.7	1836.0
22.5°	1768.2	1885.2	1804.3	1797.8	1832.3
25°	1716.1	1825.7	1742.4	1794.5	1823.6
27.5°	1650.8	1747.7	1690.7	1764.5	1801.1
30°	1584.8	1667.3	1637.7	1740.7	1805.6
32.5°	1522.8	1583.1	1594.2	1731.7	1742.4
35°	1464.1	1504.7	1527.3	1666.0	1722.7
37.5°	1399.6	1410.7	1470.7	1638.5	1693.1
40°	1334.0	1327.0	1423.0	1593.4	1668.9
42.5°	1263.4	1260.9	1372.6	1570.8	1608.6
45°	1196.5	1201.8	1300.7	1506.8	1563.0
47.5°	1127.9	1134.9	1232.6	1436.6	1506.4
50°	1048.3	1057.3	1171.8	1374.2	1464.1
52.5°	962.1	979.3	1112.7	1315.1	1405.8
55°	881.2	895.6	1037.6	1264.6	1365.2
57.5°	807.4	816.0	960.0	1201.0	1276.9
60°	734.7	736.8	887.0	1130.4	1203.0
62.5°	651.4	655.1	811.9	1047.1	1144.3
65°	557.8	575.5	731.0	967.4	1055.3
67.5°	470.4	501.2	648.5	894.4	940.3
70°	376.8	428.9	567.7	808.6	841.0
72.5°	291.0	352.2	484.7	712.5	758.1
75°	211.0	279.5	407.6	626.4	665.8
77.5°	142.0	211.8	335.3	531.1	583.3
80°	85.0	154.7	270.9	442.9	501.6
82.5°	43.5	103.8	210.2	371.5	424.0
85°	18.9	65.7	158.8	308.2	353.8
87.5°	5.3	37.4	117.0	249.1	287.7
90°	0.4	19.7	83.3	195.4	230.3
92.5°	0.4	9.4	58.7	147.8	174.4
95°	0.4	4.9	36.5	107.1	130.9
97.5°	0.4	2.9	22.2	75.9	96.0
100°	0.4	2.5	13.1	50.5	68.5
102.5°	0.4	2.9	9.0	32.0	44.7
105°	0.4	2.9	7.4	20.9	29.6
107.5°	0.8	2.9	6.6	15.6	20.5
110°	0.4	2.5	7.0	11.9	16.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	2.1	6.6	9.9	11.9
115°	0.4	1.6	5.7	9.4	9.9
117.5°	0.8	1.2	4.5	9.4	9.9
120°	0.8	0.8	3.7	9.0	10.3
122.5°	0.8	0.8	2.9	8.2	9.9
125°	0.4	0.8	2.5	6.2	8.6
127.5°	0.8	0.8	2.1	4.9	6.6
130°	0.8	0.8	1.6	3.7	4.9
132.5°	0.8	0.8	1.2	2.9	3.7
135°	0.8	0.8	0.8	2.1	2.9
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)