

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: P518192

Luminaire Tested: HVL8-8-LD4-1STD-35-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: P518192
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1STD-35-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6151.0 lumens
Efficiency: N/A
Efficacy: 94.3 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

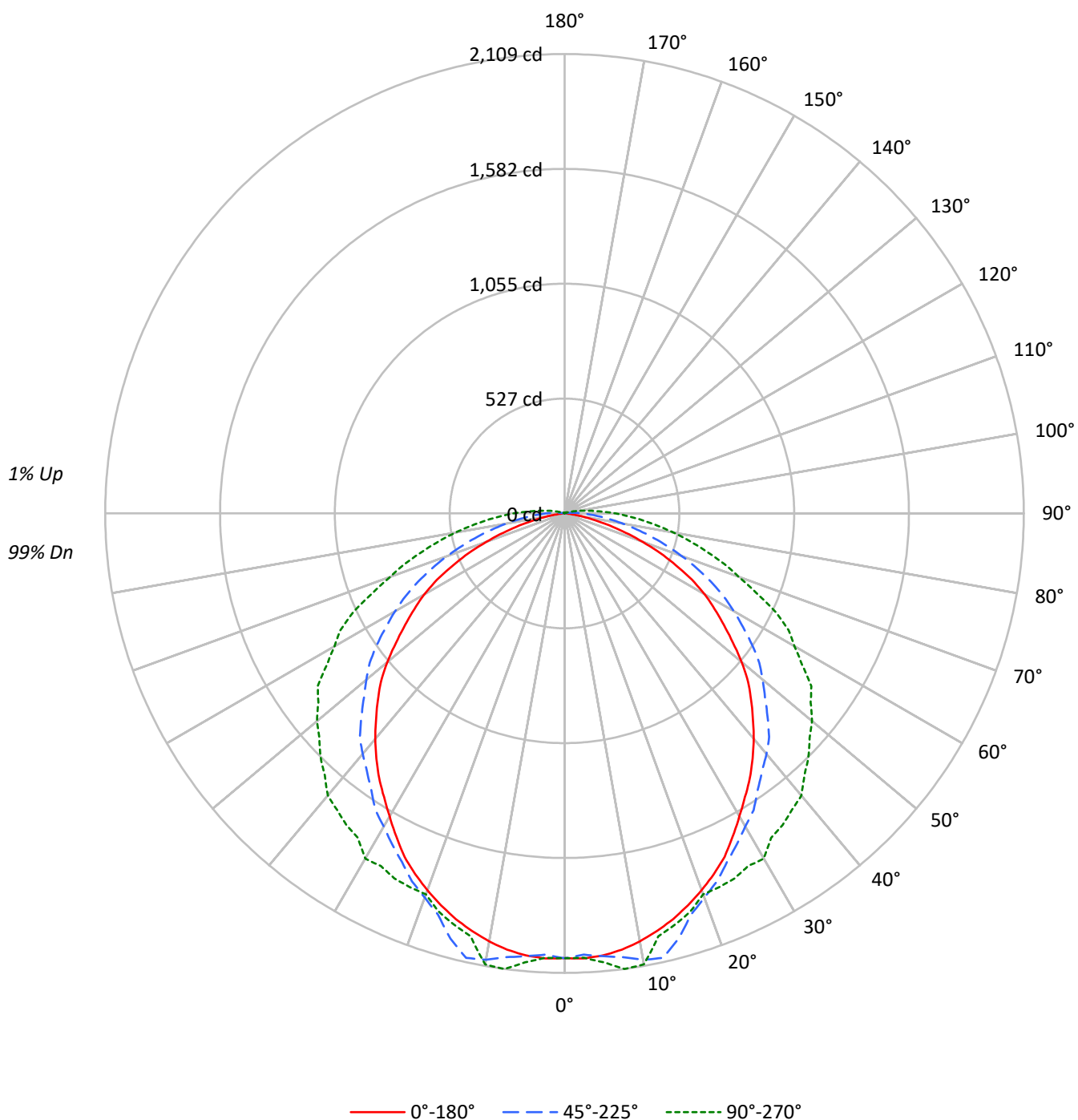
Input Watts (W): 65.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	4121	4121	4121
5°	4119	4064	4101
10°	4072	4124	4126
15°	4006	4017	3830
20°	3923	3768	3663
25°	3835	3609	3686
30°	3698	3482	3726
35°	3603	3362	3660
40°	3500	3273	3683
45°	3390	3157	3616
50°	3255	3036	3589
55°	3051	2905	3587
60°	2900	2724	3434
65°	2584	2508	3324
70°	2131	2224	2981
75°	1547	1878	2721
80°	895	1529	2443
85°	357	1169	2152

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 3616 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.2	3.2
10°-20°	558.8	9.1
20°-30°	831.5	13.5
30°-40°	999.5	16.2
40°-50°	1052.0	17.1
50°-60°	976.1	15.9
60°-70°	771.8	12.5
70°-80°	471.4	7.7
80°-90°	205.4	3.3
90°-100°	63.9	1.0
100°-110°	14.4	0.2
110°-120°	5.8	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°	1586.6	25.8
0°-40°	2586.0	42.0
0°-60°	4614.2	75.0
0°-90°	6062.8	98.6
90°-120°	84.1	1.4
90°-150°	88.2	1.4
90°-180°	88.0	1.4
0°-180°	6151.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2042	2042	2042	2042	2042	
5°	2037	2033	2040	2063	2068	193
15°	1928	2002	2021	1954	1956	543
25°	1739	1850	1766	1818	1848	798
35°	1484	1525	1548	1688	1746	927
45°	1212	1218	1318	1527	1584	935
55°	893	908	1052	1282	1383	802
65°	565	583	741	980	1069	560
75°	214	283	413	635	675	233
85°	19	66	161	312	358	30
90°	0	20	84	198	233	1
95°	0	5	37	109	133	0
105°	0	3	8	21	30	1
115°	0	2	6	10	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°	2041.8	2041.8	2041.8	2041.8	2041.8
2.5°	2044.3	2038.9	2027.7	2038.5	2041.4
5°	2036.8	2032.6	2039.7	2062.6	2068.4
7.5°	2019.8	2035.6	2054.3	2095.9	2109.2
10°	1994.4	2024.3	2080.5	2115.8	2102.1
12.5°	1963.6	2014.3	2089.6	2020.6	1988.6
15°	1927.8	2001.9	2021.4	1954.5	1955.7
17.5°	1885.8	1991.5	1931.2	1929.5	1917.4
20°	1840.5	1956.5	1876.7	1873.3	1860.5
22.5°	1791.8	1910.4	1828.4	1821.8	1856.7
25°	1739.0	1850.1	1765.6	1818.4	1848.0
27.5°	1672.9	1771.0	1713.2	1788.1	1825.1
30°	1605.9	1689.5	1659.6	1764.0	1829.7
32.5°	1543.1	1604.2	1615.5	1754.8	1765.6
35°	1483.6	1524.8	1547.7	1688.3	1745.7
37.5°	1418.3	1429.5	1490.3	1660.4	1715.7
40°	1351.8	1344.7	1442.0	1614.6	1691.2
42.5°	1280.2	1277.7	1390.9	1591.8	1630.0
45°	1212.4	1217.8	1318.1	1526.9	1583.9
47.5°	1143.0	1150.0	1249.0	1455.8	1526.5
50°	1062.3	1071.4	1187.5	1392.5	1483.6
52.5°	974.9	992.4	1127.6	1332.6	1424.6
55°	893.0	907.6	1051.5	1281.5	1383.4
57.5°	818.1	826.9	972.9	1217.0	1294.0
60°	744.5	746.6	898.8	1145.5	1219.1
62.5°	660.1	663.8	822.7	1061.0	1159.6
65°	565.2	583.1	740.8	980.3	1069.4
67.5°	476.7	507.8	657.2	906.3	952.9
70°	381.8	434.6	575.2	819.4	852.2
72.5°	294.9	356.9	491.2	722.1	768.2
75°	213.8	283.2	413.0	634.7	674.6
77.5°	143.9	214.6	339.8	538.2	591.0
80°	86.1	156.8	274.5	448.8	508.3
82.5°	44.1	105.2	213.0	376.4	429.7
85°	19.1	66.5	161.0	312.4	358.5
87.5°	5.4	37.8	118.5	252.5	291.6
90°	0.4	20.0	84.4	198.0	233.3
92.5°	0.4	9.6	59.5	149.7	176.8
95°	0.4	5.0	37.0	108.6	132.7
97.5°	0.4	2.9	22.5	76.9	97.3
100°	0.4	2.5	13.3	51.2	69.5
102.5°	0.4	2.9	9.2	32.4	45.3
105°	0.4	2.9	7.5	21.2	29.9
107.5°	0.8	2.9	6.7	15.8	20.8
110°	0.4	2.5	7.1	12.1	16.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	2.1	6.7	10.0	12.1
115°	0.4	1.7	5.8	9.6	10.0
117.5°	0.8	1.2	4.6	9.6	10.0
120°	0.8	0.8	3.7	9.2	10.4
122.5°	0.8	0.8	2.9	8.3	10.0
125°	0.4	0.8	2.5	6.2	8.7
127.5°	0.8	0.8	2.1	5.0	6.7
130°	0.8	0.8	1.7	3.7	5.0
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)