

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: P518187

Luminaire Tested: HVL8-8-LD4-1STD-30-UNV-C-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: P518187
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-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7004.0 lumens
Efficiency: N/A
Efficacy: 107.4 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

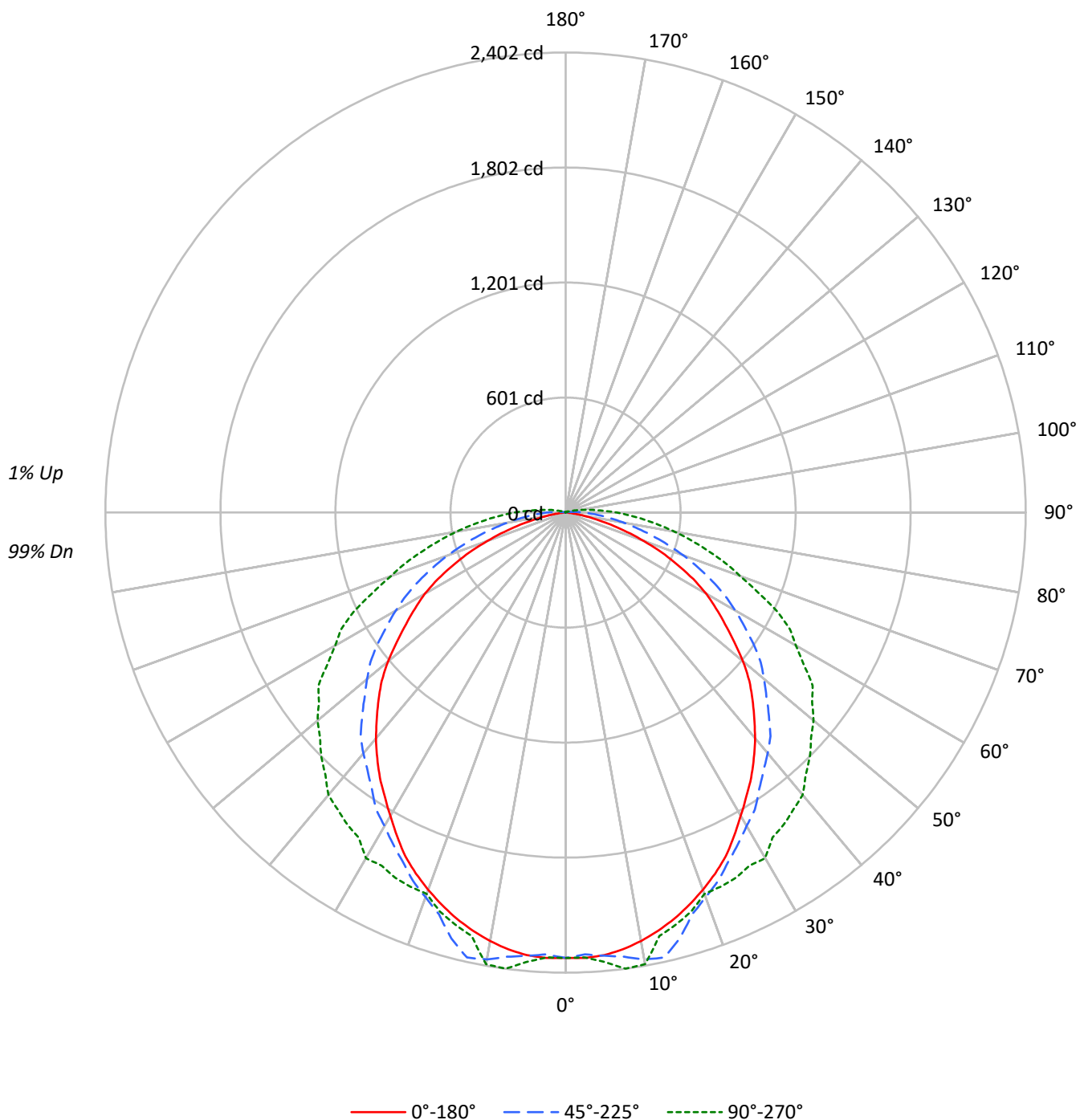
Input Watts (W): 65.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	4692	4692	4692
5°	4690	4628	4670
10°	4637	4696	4698
15°	4561	4574	4361
20°	4467	4290	4170
25°	4367	4110	4196
30°	4211	3965	4243
35°	4103	3828	4168
40°	3986	3727	4194
45°	3860	3595	4118
50°	3706	3457	4087
55°	3474	3308	4084
60°	3303	3102	3910
65°	2942	2855	3785
70°	2427	2532	3394
75°	1761	2139	3099
80°	1019	1741	2782
85°	408	1331	2451

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 4118 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	223.5	3.2
10°-20°	636.3	9.1
20°-30°	946.8	13.5
30°-40°	1138.1	16.2
40°-50°	1197.9	17.1
50°-60°	1111.5	15.9
60°-70°	878.8	12.5
70°-80°	536.8	7.7
80°-90°	233.9	3.3
90°-100°	72.8	1.0
100°-110°	16.4	0.2
110°-120°	6.6	0.1
120°-130°	3.7	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°	1806.6	25.8
0°-40°	2944.7	42.0
0°-60°	5254.0	75.0
0°-90°	6903.6	98.6
90°-120°	95.7	1.4
90°-150°	100.4	1.4
90°-180°	100.0	1.4
0°-180°	7004.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2325	2325	2325	2325	2325	
5°	2319	2314	2323	2349	2355	220
15°	2195	2280	2302	2226	2227	618
25°	1980	2107	2010	2071	2104	909
35°	1689	1736	1762	1922	1988	1056
45°	1381	1387	1501	1739	1804	1064
55°	1017	1033	1197	1459	1575	914
65°	644	664	844	1116	1218	637
75°	243	322	470	723	768	266
85°	22	76	183	356	408	34
90°	0	23	96	225	266	1
95°	0	6	42	124	151	0
105°	0	3	8	24	34	1
115°	0	2	7	11	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: P518187

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2324.9	2324.9	2324.9	2324.9	2324.9
2.5°	2327.8	2321.6	2308.8	2321.2	2324.5
5°	2319.3	2314.5	2322.6	2348.6	2355.3
7.5°	2299.8	2317.8	2339.2	2386.5	2401.7
10°	2271.0	2305.1	2369.0	2409.2	2393.6
12.5°	2235.9	2293.7	2379.4	2300.8	2264.3
15°	2195.2	2279.5	2301.7	2225.5	2226.9
17.5°	2147.3	2267.6	2199.0	2197.1	2183.3
20°	2095.7	2227.9	2136.9	2133.1	2118.5
22.5°	2040.3	2175.3	2082.0	2074.4	2114.2
25°	1980.2	2106.6	2010.5	2070.6	2104.2
27.5°	1904.9	2016.6	1950.8	2036.0	2078.2
30°	1828.6	1923.8	1889.7	2008.6	2083.4
32.5°	1757.1	1826.7	1839.5	1998.2	2010.5
35°	1689.4	1736.3	1762.3	1922.4	1987.7
37.5°	1615.0	1627.8	1696.9	1890.6	1953.6
40°	1539.2	1531.2	1642.0	1838.6	1925.7
42.5°	1457.8	1454.9	1583.7	1812.5	1856.1
45°	1380.6	1386.7	1500.9	1738.6	1803.5
47.5°	1301.5	1309.5	1422.2	1657.6	1738.1
50°	1209.6	1220.0	1352.2	1585.6	1689.4
52.5°	1110.1	1130.0	1284.0	1517.4	1622.1
55°	1016.8	1033.4	1197.3	1459.2	1575.2
57.5°	931.6	941.5	1107.8	1385.8	1473.4
60°	847.8	850.1	1023.5	1304.3	1388.1
62.5°	751.6	755.9	936.8	1208.2	1320.4
65°	643.6	664.0	843.5	1116.3	1217.6
67.5°	542.8	578.3	748.3	1032.0	1085.0
70°	434.8	494.9	655.0	933.0	970.4
72.5°	335.8	406.4	559.3	822.2	874.8
75°	243.4	322.5	470.3	722.7	768.2
77.5°	163.9	244.4	386.9	612.9	673.0
80°	98.0	178.6	312.6	511.0	578.8
82.5°	50.2	119.8	242.5	428.6	489.2
85°	21.8	75.8	183.3	355.7	408.3
87.5°	6.2	43.1	135.0	287.5	332.0
90°	0.5	22.7	96.1	225.4	265.7
92.5°	0.5	10.9	67.7	170.5	201.3
95°	0.5	5.7	42.2	123.6	151.1
97.5°	0.5	3.3	25.6	87.6	110.8
100°	0.5	2.8	15.2	58.3	79.1
102.5°	0.5	3.3	10.4	36.9	51.6
105°	0.5	3.3	8.5	24.2	34.1
107.5°	0.9	3.3	7.6	18.0	23.7
110°	0.5	2.8	8.1	13.7	18.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.9	2.4	7.6	11.4	13.7
115°	0.5	1.9	6.6	10.9	11.4
117.5°	0.9	1.4	5.2	10.9	11.4
120°	0.9	0.9	4.3	10.4	11.8
122.5°	0.9	0.9	3.3	9.5	11.4
125°	0.5	0.9	2.8	7.1	9.9
127.5°	0.9	0.9	2.4	5.7	7.6
130°	0.9	0.9	1.9	4.3	5.7
132.5°	0.9	0.9	1.4	3.3	4.3
135°	0.9	0.9	0.9	2.4	3.3
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)