

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: P518189

Luminaire Tested: HVL8-8-LD4-1STD-30-UNV-O-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: P518189
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-O-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: 6341.0 lumens
Efficiency: N/A
Efficacy: 97.3 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

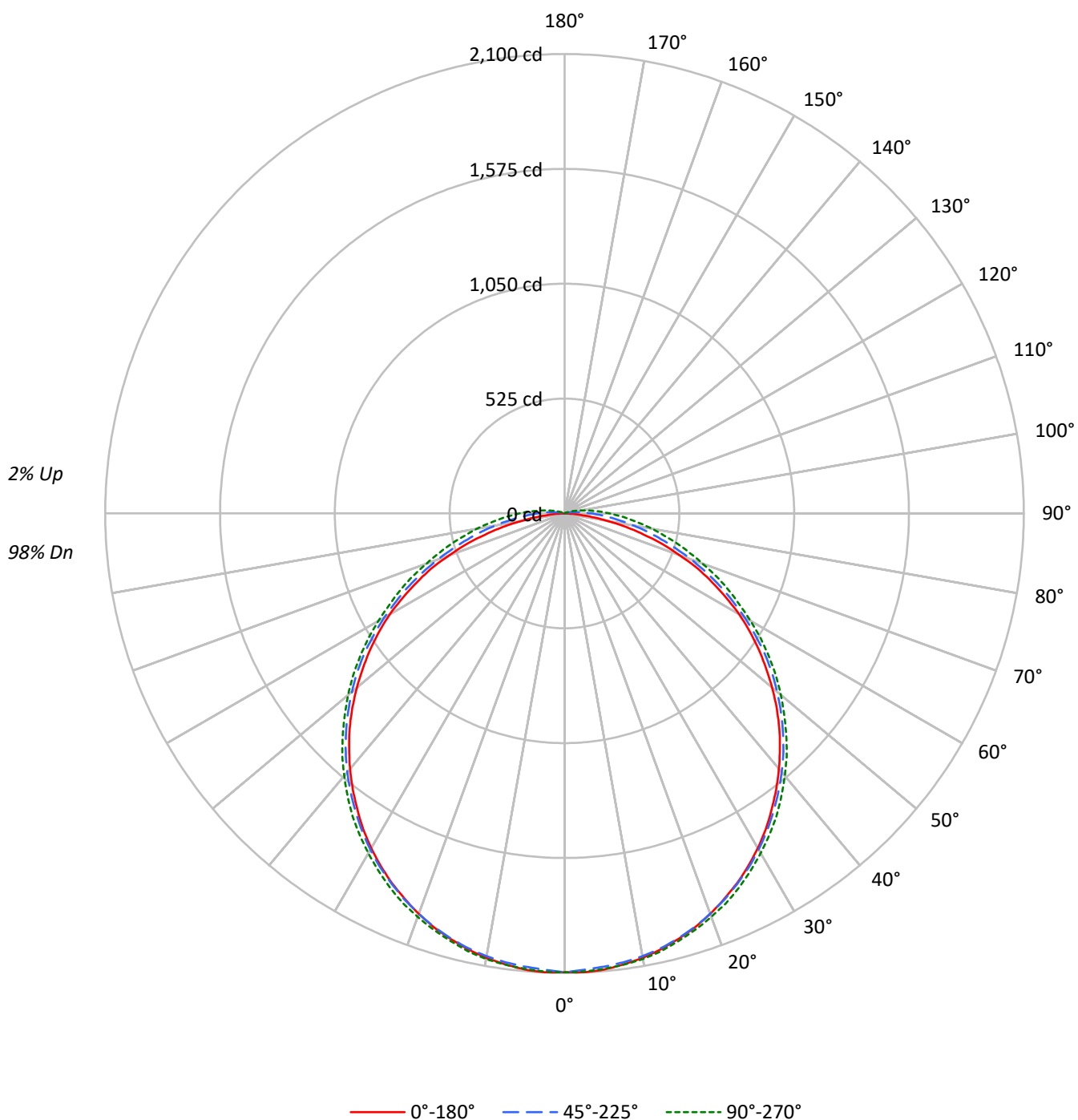
Input Watts (W): 65.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	102	98	94	105	100	96	92	95	92	89		91	88	86		87
2	98	89	82	76	95	87	80	75	83	77	73		79	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	52		62	56	51		60
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		54
6	69	55	46	40	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4233	4233	4233
5°	4232	4143	4142
10°	4212	4074	4059
15°	4183	3997	3960
20°	4152	3910	3863
25°	4114	3820	3765
30°	4069	3724	3653
35°	4010	3618	3542
40°	3949	3507	3413
45°	3884	3385	3274
50°	3797	3243	3124
55°	3705	3087	2959
60°	3594	2883	2766
65°	3406	2654	2574
70°	3129	2384	2352
75°	2729	2086	2150
80°	2117	1795	1965
85°	1221	1504	1789

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3884 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	198.5	3.1
10°-20°	569.3	9.0
20°-30°	863.8	13.6
30°-40°	1044.5	16.5
40°-50°	1089.8	17.2
50°-60°	996.4	15.7
60°-70°	776.8	12.2
70°-80°	485.9	7.7
80°-90°	220.7	3.5
90°-100°	74.0	1.2
100°-110°	18.6	0.3
110°-120°	2.9	0.0
120°-130°	0.0	0.0
130°-140°	0.0	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°	1631.5	25.7
0°-40°	2676.0	42.2
0°-60°	4762.2	75.1
0°-90°	6245.5	98.5
90°-120°	95.5	1.5
90°-150°	95.5	1.5
90°-180°	95.0	1.5
0°-180°	6341.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2097	2097	2097	2097	2097	
5°	2093	2089	2079	2089	2089	199
15°	2013	2017	2011	2023	2022	568
25°	1865	1867	1869	1885	1888	860
35°	1651	1659	1666	1682	1689	1034
45°	1389	1402	1413	1427	1434	1070
55°	1084	1097	1117	1134	1141	969
65°	745	758	784	815	828	737
75°	377	400	459	514	533	402
85°	65	121	207	274	298	83
90°	0	45	122	183	206	3
95°	0	12	63	115	132	0
105°	1	2	10	31	41	1
115°	2	2	2	5	8	1
125°	0	0	0	0	0	0
135°	0	0	0	0	0	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°	2097.2	2097.2	2097.2	2097.2	2097.2
2.5°	2099.7	2096.7	2087.3	2096.7	2096.2
5°	2092.8	2088.8	2079.4	2089.3	2089.3
7.5°	2078.9	2077.4	2069.0	2080.4	2080.4
10°	2062.6	2062.1	2055.2	2067.6	2068.1
12.5°	2039.9	2041.8	2035.4	2047.3	2048.8
15°	2013.2	2016.6	2011.2	2022.6	2022.1
17.5°	1984.0	1986.0	1982.0	1994.9	1994.4
20°	1947.9	1950.4	1947.4	1960.8	1962.3
22.5°	1907.9	1911.3	1910.8	1924.7	1928.6
25°	1865.3	1866.8	1868.8	1884.6	1887.6
27.5°	1818.4	1820.9	1824.3	1838.7	1841.6
30°	1767.0	1770.9	1774.9	1789.7	1793.7
32.5°	1712.6	1716.5	1721.5	1740.8	1742.7
35°	1651.3	1658.7	1665.6	1682.4	1689.3
37.5°	1590.0	1599.4	1605.8	1623.6	1629.0
40°	1525.2	1534.6	1545.0	1563.8	1567.2
42.5°	1457.5	1468.4	1480.7	1497.5	1503.5
45°	1389.2	1401.6	1413.0	1426.8	1433.7
47.5°	1315.6	1327.9	1341.8	1357.6	1362.1
50°	1239.4	1253.8	1268.6	1283.4	1291.4
52.5°	1161.3	1178.6	1195.4	1211.3	1218.7
55°	1084.2	1097.1	1117.3	1133.6	1141.1
57.5°	1004.1	1015.0	1033.3	1060.0	1063.9
60°	922.5	932.4	951.2	973.0	981.9
62.5°	832.6	845.9	865.7	893.4	901.3
65°	745.1	757.9	784.1	815.3	828.1
67.5°	660.5	665.0	698.6	731.2	752.0
70°	560.6	577.5	616.5	656.6	672.4
72.5°	474.6	491.4	534.4	581.4	601.2
75°	377.2	400.5	458.8	513.7	533.0
77.5°	291.7	317.4	389.6	445.0	467.2
80°	203.7	243.7	322.3	384.6	408.9
82.5°	128.0	177.5	261.5	326.8	348.1
85°	65.3	120.6	207.2	273.9	298.1
87.5°	17.3	78.1	161.2	224.9	249.7
90°	0.5	45.0	122.1	183.4	205.7
92.5°	0.5	25.2	91.0	145.8	168.6
95°	0.5	11.9	63.3	114.7	132.5
97.5°	0.5	4.9	43.5	86.5	104.3
100°	0.5	2.5	27.7	62.8	78.1
102.5°	1.0	1.5	17.3	45.0	57.3
105°	1.0	1.5	10.4	30.7	41.0
107.5°	1.0	1.5	5.9	20.8	28.2
110°	1.5	1.5	3.5	12.9	18.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.5	1.5	2.0	8.4	12.4
115°	1.5	1.5	2.0	5.4	7.9
117.5°	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
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)