

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: P518201

Luminaire Tested: HVL8-8-LD4-1STD-50-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: P518201
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1STD-50-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6836.0 lumens
Efficiency: N/A
Efficacy: 104.8 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

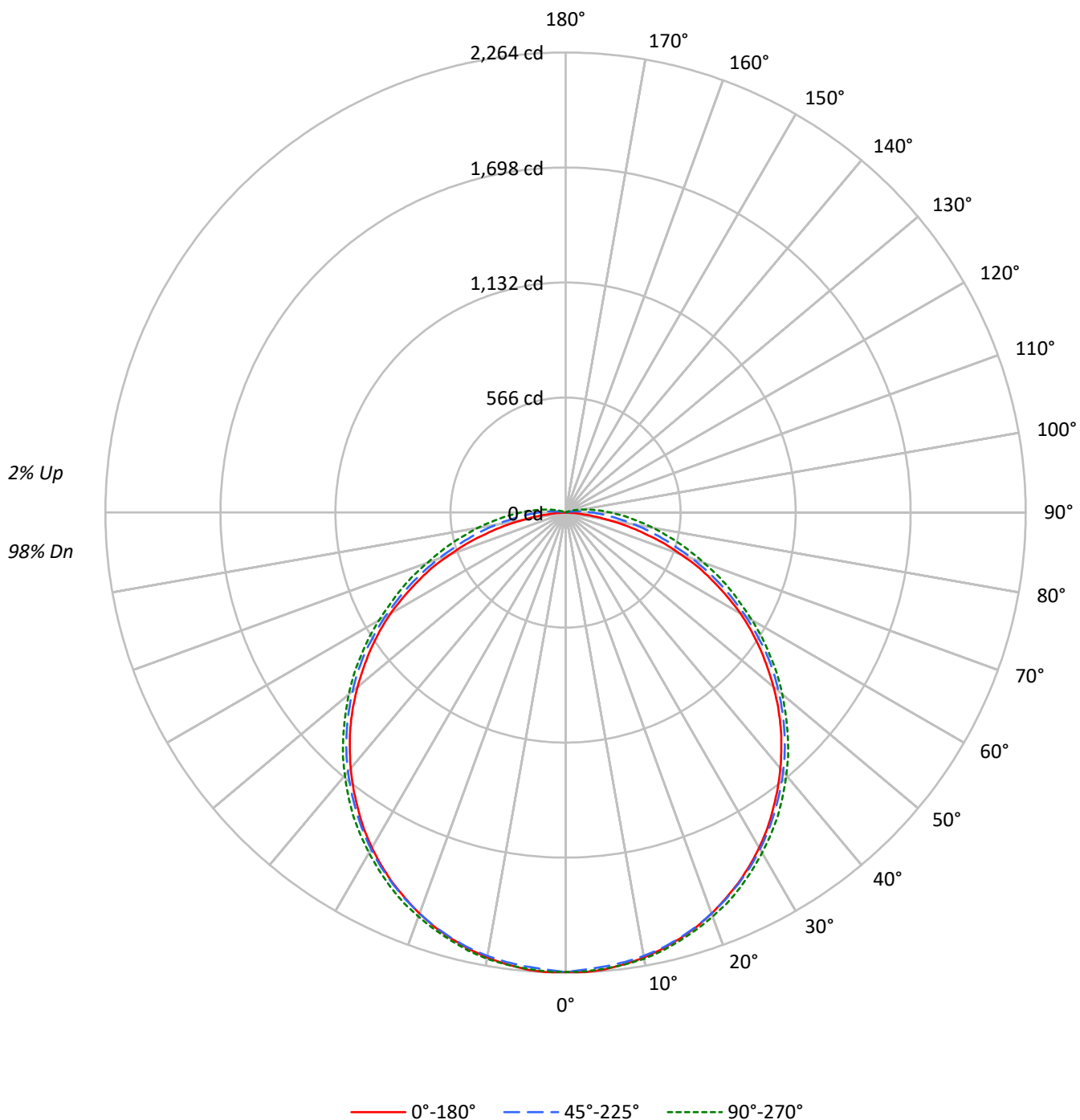
Input Watts (W): 65.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101			98
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	77	73	79	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	52	62	56	51	60	54	50			47
5	75	61	52	45	72	60	52	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	40	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°	4563	4563	4563
5°	4562	4467	4466
10°	4540	4392	4376
15°	4510	4309	4269
20°	4476	4215	4164
25°	4435	4119	4058
30°	4387	4015	3938
35°	4323	3901	3819
40°	4258	3781	3679
45°	4187	3649	3529
50°	4094	3496	3368
55°	3994	3328	3189
60°	3875	3108	2981
65°	3672	2861	2775
70°	3373	2570	2536
75°	2943	2249	2318
80°	2283	1936	2119
85°	1317	1621	1929

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4187 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	214.0	3.1
10°-20°	613.7	9.0
20°-30°	931.2	13.6
30°-40°	1126.0	16.5
40°-50°	1174.9	17.2
50°-60°	1074.2	15.7
60°-70°	837.4	12.2
70°-80°	523.8	7.7
80°-90°	237.9	3.5
90°-100°	79.7	1.2
100°-110°	20.0	0.3
110°-120°	3.2	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°	1758.9	25.7
0°-40°	2884.9	42.2
0°-60°	5133.9	75.1
0°-90°	6733.1	98.5
90°-120°	102.9	1.5
90°-150°	102.9	1.5
90°-180°	103.0	1.5
0°-180°	6836.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2261	2261	2261	2261	2261	
5°	2256	2252	2242	2252	2252	214
15°	2170	2174	2168	2180	2180	613
25°	2011	2013	2015	2032	2035	927
35°	1780	1788	1796	1814	1821	1114
45°	1498	1511	1523	1538	1546	1154
55°	1169	1183	1205	1222	1230	1044
65°	803	817	845	879	893	795
75°	407	432	495	554	575	434
85°	70	130	223	295	321	89
90°	0	48	132	198	222	3
95°	0	13	68	124	143	0
105°	1	2	11	33	44	1
115°	2	2	2	6	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

TEST NUMBER: P518201

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2260.9	2260.9	2260.9	2260.9	2260.9
2.5°	2263.6	2260.4	2250.3	2260.4	2259.9
5°	2256.1	2251.9	2241.7	2252.4	2252.4
7.5°	2241.2	2239.6	2230.6	2242.8	2242.8
10°	2223.6	2223.1	2215.6	2229.0	2229.5
12.5°	2199.1	2201.2	2194.3	2207.1	2208.7
15°	2170.3	2174.1	2168.2	2180.5	2179.9
17.5°	2138.9	2141.0	2136.7	2150.6	2150.1
20°	2100.0	2102.6	2099.4	2113.8	2115.4
22.5°	2056.8	2060.5	2060.0	2074.9	2079.2
25°	2011.0	2012.6	2014.7	2031.8	2034.9
27.5°	1960.3	1963.0	1966.7	1982.2	1985.4
30°	1904.9	1909.2	1913.4	1929.4	1933.7
32.5°	1846.3	1850.5	1855.9	1876.7	1878.8
35°	1780.2	1788.2	1795.6	1813.8	1821.2
37.5°	1714.1	1724.2	1731.1	1750.3	1756.2
40°	1644.3	1654.4	1665.6	1685.8	1689.6
42.5°	1571.2	1583.0	1596.3	1614.4	1620.8
45°	1497.7	1511.0	1523.3	1538.2	1545.7
47.5°	1418.3	1431.6	1446.5	1463.6	1468.4
50°	1336.2	1351.7	1367.6	1383.6	1392.2
52.5°	1252.0	1270.6	1288.8	1305.8	1313.8
55°	1168.8	1182.7	1204.6	1222.1	1230.1
57.5°	1082.5	1094.2	1113.9	1142.7	1147.0
60°	994.6	1005.2	1025.5	1048.9	1058.5
62.5°	897.6	911.9	933.3	963.1	971.6
65°	803.2	817.1	845.3	878.9	892.8
67.5°	712.1	716.9	753.1	788.3	810.7
70°	604.4	622.5	664.6	707.8	724.9
72.5°	511.7	529.8	576.2	626.8	648.1
75°	406.7	431.7	494.6	553.8	574.6
77.5°	314.5	342.2	420.0	479.7	503.7
80°	219.6	262.8	347.5	414.7	440.8
82.5°	138.0	191.3	282.0	352.3	375.2
85°	70.4	130.0	223.3	295.3	321.4
87.5°	18.7	84.2	173.8	242.5	269.2
90°	0.5	48.5	131.6	197.7	221.7
92.5°	0.5	27.2	98.1	157.2	181.7
95°	0.5	12.8	68.2	123.7	142.8
97.5°	0.5	5.3	46.9	93.3	112.5
100°	0.5	2.7	29.8	67.7	84.2
102.5°	1.1	1.6	18.7	48.5	61.8
105°	1.1	1.6	11.2	33.0	44.2
107.5°	1.1	1.6	6.4	22.4	30.4
110°	1.6	1.6	3.7	13.9	20.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	1.6	2.1	9.1	13.3
115°	1.6	1.6	2.1	5.9	8.5
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)