

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: P518193

Luminaire Tested: HVL8-8-LD4-1STD-35-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: P518193
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-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6656.0 lumens
Efficiency: N/A
Efficacy: 102.1 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

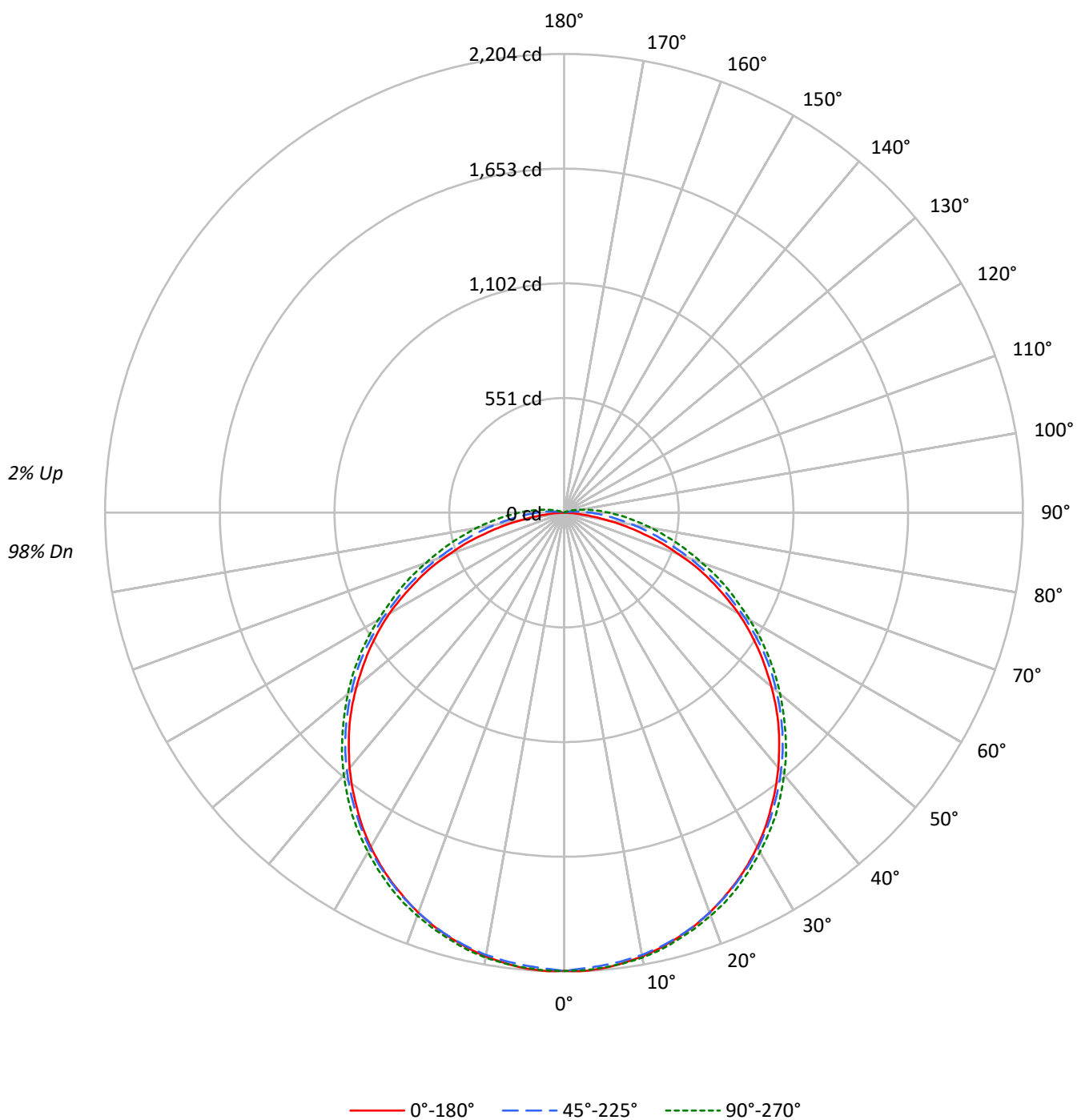
Input Watts (W): 65.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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				0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		0
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		98
1	108	102	98	94	105	100	96	92	95	92	89		91	88	86		81
2	98	89	82	76	95	87	80	75	83	77	73		79	75	71		67
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		56
4	81	69	60	53	79	67	59	52	65	57	52		62	56	51		47
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		41
6	69	55	46	40	67	54	46	39	52	45	39		50	44	38		36
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		32
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		28
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		25
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4443	4443	4443
5°	4442	4349	4348
10°	4421	4277	4261
15°	4391	4196	4156
20°	4358	4104	4055
25°	4318	4010	3952
30°	4271	3909	3834
35°	4209	3798	3718
40°	4146	3681	3583
45°	4077	3553	3436
50°	3986	3404	3279
55°	3889	3240	3105
60°	3773	3026	2903
65°	3575	2786	2702
70°	3285	2502	2469
75°	2865	2190	2256
80°	2222	1885	2063
85°	1281	1578	1878

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4077 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	208.3	3.1
10°-20°	597.6	9.0
20°-30°	906.7	13.6
30°-40°	1096.3	16.5
40°-50°	1143.9	17.2
50°-60°	1045.9	15.7
60°-70°	815.3	12.2
70°-80°	510.0	7.7
80°-90°	231.6	3.5
90°-100°	77.6	1.2
100°-110°	19.5	0.3
110°-120°	3.1	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°	1712.6	25.7
0°-40°	2808.9	42.2
0°-60°	4998.8	75.1
0°-90°	6555.8	98.5
90°-120°	100.2	1.5
90°-150°	100.2	1.5
90°-180°	100.0	1.5
0°-180°	6656.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2201	2201	2201	2201	2201	
5°	2197	2193	2183	2193	2193	209
15°	2113	2117	2111	2123	2122	597
25°	1958	1960	1962	1978	1981	902
35°	1733	1741	1748	1766	1773	1085
45°	1458	1471	1483	1498	1505	1124
55°	1138	1152	1173	1190	1198	1017
65°	782	796	823	856	869	774
75°	396	420	482	539	559	422
85°	68	127	217	288	313	87
90°	0	47	128	192	216	3
95°	0	12	66	120	139	0
105°	1	2	11	32	43	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2201.4	2201.4	2201.4	2201.4	2201.4
2.5°	2204.0	2200.9	2191.0	2200.9	2200.4
5°	2196.7	2192.6	2182.7	2193.1	2193.1
7.5°	2182.2	2180.6	2171.8	2183.8	2183.8
10°	2165.1	2164.6	2157.3	2170.3	2170.8
12.5°	2141.2	2143.3	2136.5	2149.0	2150.5
15°	2113.2	2116.8	2111.1	2123.0	2122.5
17.5°	2082.6	2084.6	2080.5	2094.0	2093.5
20°	2044.7	2047.3	2044.2	2058.2	2059.7
22.5°	2002.6	2006.3	2005.8	2020.3	2024.4
25°	1958.0	1959.6	1961.6	1978.3	1981.4
27.5°	1908.7	1911.3	1914.9	1930.0	1933.1
30°	1854.7	1858.9	1863.0	1878.6	1882.8
32.5°	1797.7	1801.8	1807.0	1827.2	1829.3
35°	1733.3	1741.1	1748.4	1766.0	1773.3
37.5°	1669.0	1678.8	1685.6	1704.2	1710.0
40°	1601.0	1610.8	1621.7	1641.5	1645.1
42.5°	1529.9	1541.3	1554.3	1571.9	1578.1
45°	1458.3	1471.2	1483.2	1497.7	1505.0
47.5°	1380.9	1393.9	1408.4	1425.0	1429.7
50°	1301.0	1316.1	1331.6	1347.2	1355.5
52.5°	1219.0	1237.2	1254.8	1271.4	1279.2
55°	1138.1	1151.6	1172.8	1190.0	1197.7
57.5°	1054.0	1065.4	1084.6	1112.6	1116.8
60°	968.4	978.7	998.5	1021.3	1030.6
62.5°	873.9	887.9	908.7	937.7	946.1
65°	782.1	795.6	823.1	855.8	869.2
67.5°	693.3	698.0	733.3	767.5	789.3
70°	588.5	606.1	647.1	689.2	705.8
72.5°	498.2	515.8	561.0	610.3	631.0
75°	396.0	420.4	481.6	539.2	559.4
77.5°	306.2	333.2	408.9	467.1	490.4
80°	213.8	255.8	338.4	403.7	429.2
82.5°	134.4	186.3	274.5	343.0	365.3
85°	68.5	126.6	217.4	287.5	312.9
87.5°	18.2	82.0	169.2	236.1	262.1
90°	0.5	47.2	128.2	192.5	215.9
92.5°	0.5	26.5	95.5	153.1	177.0
95°	0.5	12.5	66.4	120.4	139.1
97.5°	0.5	5.2	45.7	90.8	109.5
100°	0.5	2.6	29.1	65.9	82.0
102.5°	1.0	1.6	18.2	47.2	60.2
105°	1.0	1.6	10.9	32.2	43.1
107.5°	1.0	1.6	6.2	21.8	29.6
110°	1.6	1.6	3.6	13.5	19.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	1.6	2.1	8.8	13.0
115°	1.6	1.6	2.1	5.7	8.3
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)