

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: P518200

Luminaire Tested: HVL8-8-LD4-1STD-50-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: P518200
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-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6569.0 lumens
Efficiency: N/A
Efficacy: 100.8 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

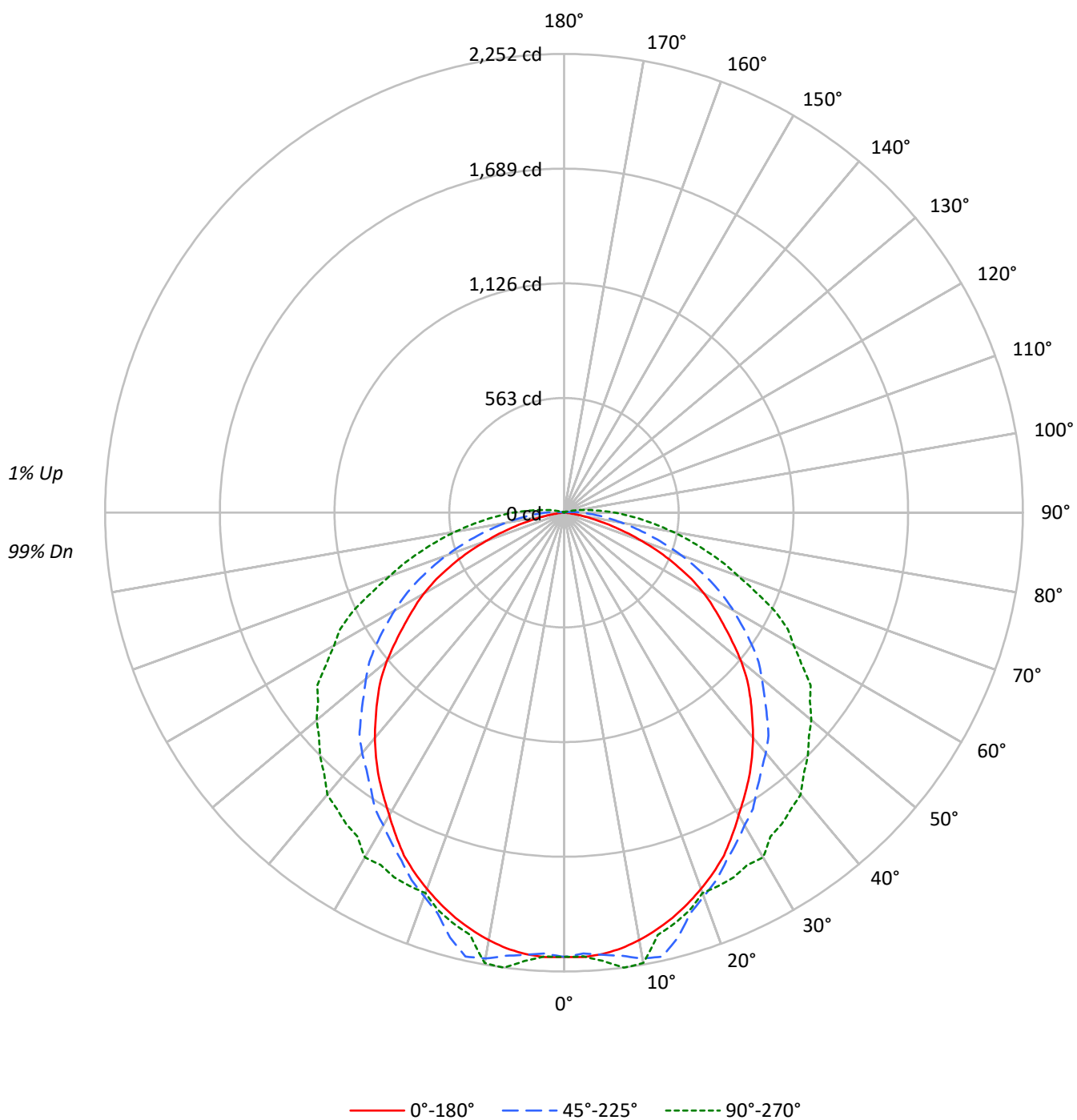
Input Watts (W): 65.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

TEST NUMBER: P518200

CATALOG NUMBER: HVL8-8-LD4-1STD-50-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P518200

CATALOG NUMBER: HVL8-8-LD4-1STD-50-UNV-C-EDD

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°	4401	4401	4401
5°	4399	4340	4380
10°	4349	4405	4407
15°	4278	4290	4090
20°	4190	4024	3911
25°	4096	3855	3936
30°	3949	3719	3979
35°	3848	3591	3909
40°	3738	3495	3933
45°	3620	3372	3862
50°	3476	3242	3833
55°	3259	3102	3831
60°	3098	2909	3667
65°	2760	2678	3550
70°	2276	2375	3184
75°	1652	2006	2906
80°	955	1633	2609
85°	382	1248	2298

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 3862 cd/sqm

TEST NUMBER: P518200

CATALOG NUMBER: HVL8-8-LD4-1STD-50-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.6	3.2
10°-20°	596.8	9.1
20°-30°	888.0	13.5
30°-40°	1067.4	16.2
40°-50°	1123.5	17.1
50°-60°	1042.5	15.9
60°-70°	824.2	12.5
70°-80°	503.5	7.7
80°-90°	219.4	3.3
90°-100°	68.3	1.0
100°-110°	15.3	0.2
110°-120°	6.2	0.1
120°-130°	3.5	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°	1694.4	25.8
0°-40°	2761.8	42.0
0°-60°	4927.7	75.0
0°-90°	6474.8	98.6
90°-120°	89.8	1.4
90°-150°	94.2	1.4
90°-180°	94.0	1.4
0°-180°	6569.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2181	2181	2181	2181	2181	
5°	2175	2171	2178	2203	2209	206
15°	2059	2138	2159	2087	2089	580
25°	1857	1976	1886	1942	1974	853
35°	1584	1628	1653	1803	1864	990
45°	1295	1301	1408	1631	1692	998
55°	954	969	1123	1369	1477	857
65°	604	623	791	1047	1142	598
75°	228	302	441	678	720	249
85°	20	71	172	334	383	32
90°	0	21	90	211	249	1
95°	0	5	40	116	142	0
105°	0	3	8	23	32	1
115°	0	2	6	10	11	1
125°	0	1	3	7	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

TEST NUMBER: P518200

CATALOG NUMBER: HVL8-8-LD4-1STD-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2180.6	2180.6	2180.6	2180.6	2180.6
2.5°	2183.2	2177.4	2165.4	2177.0	2180.1
5°	2175.2	2170.8	2178.3	2202.8	2209.0
7.5°	2157.0	2173.9	2193.9	2238.3	2252.5
10°	2129.9	2161.9	2221.9	2259.6	2245.0
12.5°	2097.0	2151.2	2231.6	2157.9	2123.7
15°	2058.8	2137.9	2158.8	2087.3	2088.6
17.5°	2014.0	2126.8	2062.4	2060.6	2047.7
20°	1965.6	2089.5	2004.2	2000.7	1986.9
22.5°	1913.6	2040.2	1952.7	1945.6	1982.9
25°	1857.2	1975.8	1885.6	1942.0	1973.6
27.5°	1786.6	1891.4	1829.6	1909.6	1949.1
30°	1715.0	1804.3	1772.3	1883.8	1954.0
32.5°	1648.0	1713.3	1725.3	1874.1	1885.6
35°	1584.4	1628.4	1652.8	1803.0	1864.3
37.5°	1514.7	1526.7	1591.5	1773.2	1832.3
40°	1443.6	1436.1	1540.0	1724.4	1806.1
42.5°	1367.2	1364.6	1485.4	1699.9	1740.8
45°	1294.8	1300.6	1407.7	1630.6	1691.5
47.5°	1220.6	1228.2	1333.9	1554.7	1630.2
50°	1134.5	1144.2	1268.2	1487.2	1584.4
52.5°	1041.2	1059.8	1204.2	1423.2	1521.4
55°	953.7	969.2	1122.9	1368.6	1477.4
57.5°	873.7	883.1	1039.0	1299.7	1381.9
60°	795.1	797.3	959.9	1223.3	1301.9
62.5°	704.9	708.9	878.6	1133.1	1238.4
65°	603.7	622.8	791.1	1047.0	1142.0
67.5°	509.0	542.4	701.8	967.9	1017.6
70°	407.8	464.2	614.3	875.1	910.2
72.5°	314.9	381.1	524.6	771.1	820.4
75°	228.3	302.5	441.1	677.8	720.5
77.5°	153.7	229.2	362.9	574.8	631.2
80°	91.9	167.5	293.2	479.3	542.8
82.5°	47.1	112.4	227.4	402.0	458.9
85°	20.4	71.1	171.9	333.6	382.9
87.5°	5.8	40.4	126.6	269.6	311.4
90°	0.4	21.3	90.2	211.4	249.2
92.5°	0.4	10.2	63.5	159.9	188.8
95°	0.4	5.3	39.5	115.9	141.7
97.5°	0.4	3.1	24.0	82.2	103.9
100°	0.4	2.7	14.2	54.6	74.2
102.5°	0.4	3.1	9.8	34.6	48.4
105°	0.4	3.1	8.0	22.7	32.0
107.5°	0.9	3.1	7.1	16.9	22.2
110°	0.4	2.7	7.6	12.9	17.3

TEST NUMBER: P518200

CATALOG NUMBER: HVL8-8-LD4-1STD-50-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.9	2.2	7.1	10.7	12.9
115°	0.4	1.8	6.2	10.2	10.7
117.5°	0.9	1.3	4.9	10.2	10.7
120°	0.9	0.9	4.0	9.8	11.1
122.5°	0.9	0.9	3.1	8.9	10.7
125°	0.4	0.9	2.7	6.7	9.3
127.5°	0.9	0.9	2.2	5.3	7.1
130°	0.9	0.9	1.8	4.0	5.3
132.5°	0.9	0.9	1.3	3.1	4.0
135°	0.9	0.9	0.9	2.2	3.1
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)