

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: P518130

Luminaire Tested: HVL8-4-LD4-3LO-35-UNV-O-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: P518130
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-4-LD4-3LO-35-UNV-O-EDD
Description: 4 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

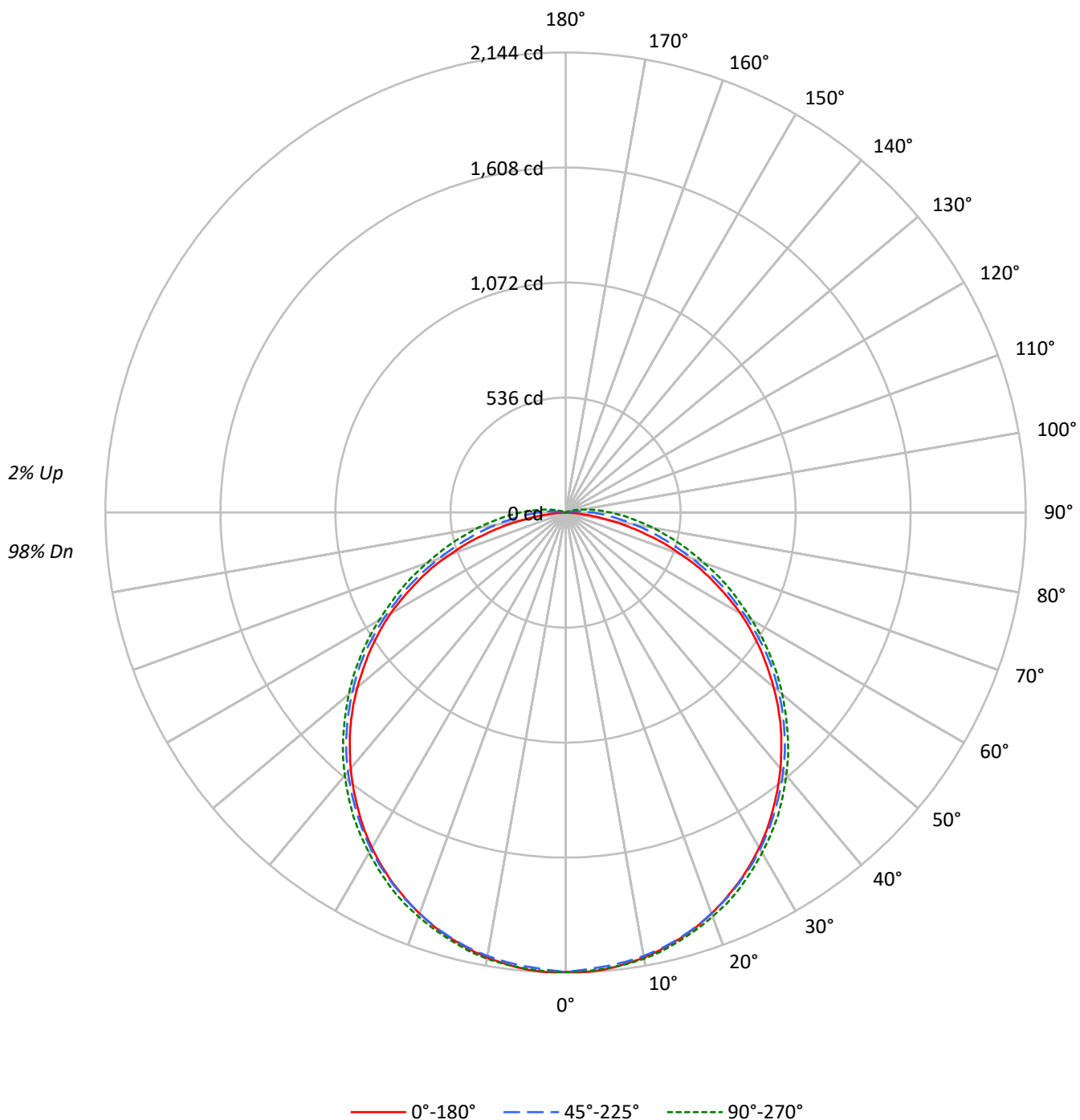
Lumens per Lamp: N/A
Luminaire Lumens: 6474.0 lumens
Efficiency: N/A
Efficacy: 96.1 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 4' x H: 0.17')
CIE Type: Direct

Input Watts (W): 67.4
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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CATALOG NUMBER: HVL8-4-LD4-3LO-35-UNV-O-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			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°	8643	8643	8643
5°	8626	8450	8458
10°	8569	8299	8289
15°	8494	8131	8086
20°	8415	7944	7888
25°	8320	7752	7687
30°	8211	7547	7459
35°	8072	7322	7233
40°	7928	7085	6969
45°	7773	6827	6685
50°	7570	6528	6378
55°	7352	6201	6041
60°	7092	5777	5647
65°	6669	5301	5257
70°	6061	4741	4803
75°	5198	4127	4389
80°	3911	3526	4012
85°	2089	2917	3654

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 7773 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	202.6	3.1
10°-20°	581.2	9.0
20°-30°	881.9	13.6
30°-40°	1066.4	16.5
40°-50°	1112.7	17.2
50°-60°	1017.3	15.7
60°-70°	793.0	12.2
70°-80°	496.1	7.7
80°-90°	225.3	3.5
90°-100°	75.5	1.2
100°-110°	19.0	0.3
110°-120°	3.0	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°	1665.7	25.7
0°-40°	2732.1	42.2
0°-60°	4862.1	75.1
0°-90°	6376.5	98.5
90°-120°	97.5	1.5
90°-150°	97.5	1.5
90°-180°	97.0	1.5
0°-180°	6474.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2141	2141	2141	2141	2141	
5°	2137	2133	2123	2133	2133	203
15°	2055	2059	2053	2065	2064	580
25°	1904	1906	1908	1924	1927	878
35°	1686	1694	1700	1718	1725	1055
45°	1418	1431	1443	1457	1464	1093
55°	1107	1120	1141	1157	1165	989
65°	761	774	801	832	846	753
75°	385	409	468	524	544	411
85°	67	123	212	280	304	84
90°	0	46	125	187	210	3
95°	0	12	65	117	135	0
105°	1	2	11	31	42	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: P518130

CATALOG NUMBER: HVL8-4-LD4-3LO-35-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2141.2	2141.2	2141.2	2141.2	2141.2
2.5°	2143.7	2140.7	2131.1	2140.7	2140.2
5°	2136.7	2132.6	2123.0	2133.1	2133.1
7.5°	2122.5	2121.0	2112.4	2124.0	2124.0
10°	2105.9	2105.4	2098.3	2110.9	2111.4
12.5°	2082.7	2084.7	2078.1	2090.2	2091.7
15°	2055.4	2058.9	2053.4	2065.0	2064.5
17.5°	2025.6	2027.6	2023.6	2036.7	2036.2
20°	1988.8	1991.3	1988.3	2001.9	2003.4
22.5°	1947.9	1951.4	1950.9	1965.0	1969.1
25°	1904.5	1906.0	1908.0	1924.2	1927.2
27.5°	1856.5	1859.0	1862.6	1877.2	1880.2
30°	1804.0	1808.1	1812.1	1827.2	1831.3
32.5°	1748.5	1752.5	1757.6	1777.3	1779.3
35°	1685.9	1693.5	1700.5	1717.7	1724.8
37.5°	1623.3	1632.9	1639.5	1657.6	1663.2
40°	1557.2	1566.8	1577.4	1596.6	1600.1
42.5°	1488.0	1499.1	1511.8	1528.9	1535.0
45°	1418.4	1431.0	1442.6	1456.7	1463.8
47.5°	1343.2	1355.8	1369.9	1386.1	1390.6
50°	1265.4	1280.1	1295.2	1310.4	1318.4
52.5°	1185.7	1203.4	1220.5	1236.7	1244.2
55°	1106.9	1120.1	1140.8	1157.4	1165.0
57.5°	1025.2	1036.3	1055.0	1082.2	1086.3
60°	941.9	952.0	971.2	993.4	1002.5
62.5°	850.0	863.7	883.8	912.1	920.2
65°	760.7	773.8	800.6	832.4	845.5
67.5°	674.4	678.9	713.2	746.5	767.7
70°	572.4	589.6	629.4	670.3	686.5
72.5°	484.6	501.7	545.6	593.6	613.8
75°	385.1	408.9	468.4	524.4	544.1
77.5°	297.8	324.1	397.8	454.3	477.0
80°	208.0	248.8	329.1	392.7	417.4
82.5°	130.7	181.2	267.0	333.6	355.4
85°	66.6	123.2	211.5	279.6	304.4
87.5°	17.7	79.8	164.6	229.7	254.9
90°	0.5	45.9	124.7	187.3	210.0
92.5°	0.5	25.7	92.9	148.9	172.1
95°	0.5	12.1	64.6	117.1	135.3
97.5°	0.5	5.0	44.4	88.3	106.5
100°	0.5	2.5	28.3	64.1	79.8
102.5°	1.0	1.5	17.7	45.9	58.6
105°	1.0	1.5	10.6	31.3	41.9
107.5°	1.0	1.5	6.1	21.2	28.8
110°	1.5	1.5	3.5	13.1	19.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.5	1.5	2.0	8.6	12.6
115°	1.5	1.5	2.0	5.6	8.1
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)