

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: P518160

Luminaire Tested: HVL8-8-LD4-1HI-35-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: P518160
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1HI-35-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7915.0 lumens
Efficiency: N/A
Efficacy: 92.0 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

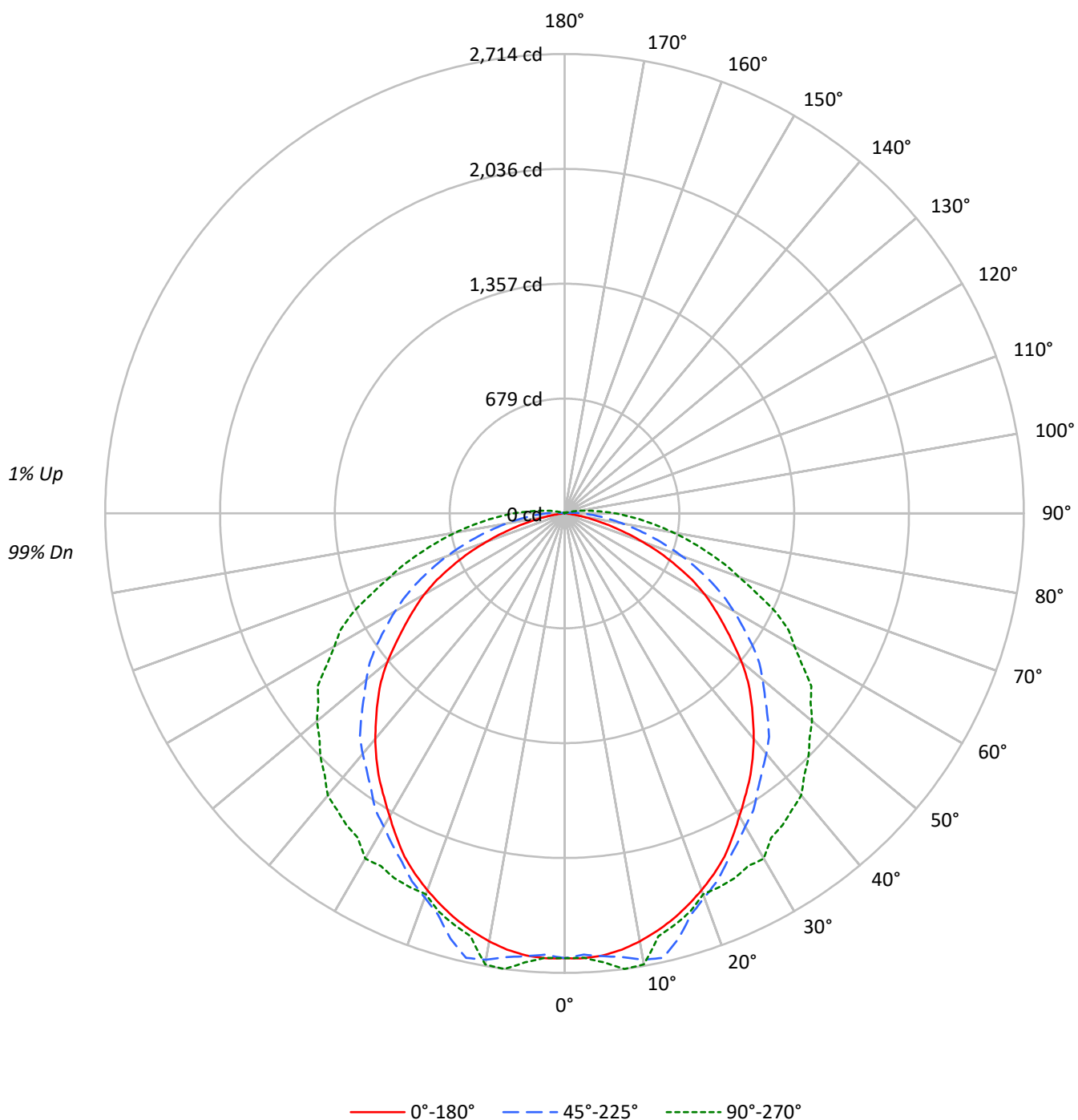
Input Watts (W): 86
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			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°	5303	5303	5303
5°	5300	5230	5277
10°	5240	5307	5309
15°	5154	5169	4928
20°	5048	4849	4713
25°	4935	4645	4742
30°	4758	4481	4795
35°	4636	4326	4710
40°	4504	4212	4739
45°	4362	4063	4654
50°	4188	3906	4618
55°	3926	3738	4615
60°	3732	3506	4418
65°	3325	3227	4277
70°	2742	2862	3836
75°	1990	2417	3502
80°	1152	1968	3143
85°	460	1504	2769

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 4654 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	252.5	3.2
10°-20°	719.1	9.1
20°-30°	1070.0	13.5
30°-40°	1286.1	16.2
40°-50°	1353.7	17.1
50°-60°	1256.1	15.9
60°-70°	993.1	12.5
70°-80°	606.6	7.7
80°-90°	264.3	3.3
90°-100°	82.3	1.0
100°-110°	18.5	0.2
110°-120°	7.4	0.1
120°-130°	4.2	0.1
130°-140°	1.1	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°	2041.6	25.8
0°-40°	3327.7	42.0
0°-60°	5937.4	75.0
0°-90°	7801.5	98.6
90°-120°	108.2	1.4
90°-150°	113.5	1.4
90°-180°	113.0	1.4
0°-180°	7915.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2627	2627	2627	2627	2627	
5°	2621	2616	2625	2654	2662	248
15°	2481	2576	2601	2515	2517	699
25°	2238	2381	2272	2340	2378	1027
35°	1909	1962	1992	2172	2246	1193
45°	1560	1567	1696	1965	2038	1203
55°	1149	1168	1353	1649	1780	1032
65°	727	750	953	1262	1376	720
75°	275	364	532	817	868	300
85°	25	86	207	402	461	38
90°	0	26	109	255	300	1
95°	0	6	48	140	171	0
105°	0	4	10	27	38	1
115°	0	2	8	12	13	1
125°	0	1	3	8	11	1
135°	1	1	1	3	4	1
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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CATALOG NUMBER: HVL8-8-LD4-1HI-35-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2627.3	2627.3	2627.3	2627.3	2627.3
2.5°	2630.6	2623.6	2609.2	2623.1	2626.8
5°	2620.9	2615.6	2624.7	2654.1	2661.6
7.5°	2599.0	2619.3	2643.4	2696.9	2714.1
10°	2566.3	2604.9	2677.1	2722.6	2705.0
12.5°	2526.7	2592.0	2688.9	2600.1	2558.8
15°	2480.7	2576.0	2601.1	2515.0	2516.6
17.5°	2426.6	2562.6	2485.0	2482.8	2467.3
20°	2368.3	2517.6	2414.9	2410.6	2394.0
22.5°	2305.7	2458.2	2352.8	2344.2	2389.2
25°	2237.7	2380.6	2272.0	2339.9	2377.9
27.5°	2152.6	2278.9	2204.5	2300.9	2348.5
30°	2066.4	2174.0	2135.5	2269.8	2354.4
32.5°	1985.6	2064.3	2078.8	2258.1	2272.0
35°	1909.1	1962.1	1991.5	2172.4	2246.3
37.5°	1825.1	1839.5	1917.7	2136.6	2207.7
40°	1739.4	1730.3	1855.6	2077.7	2176.2
42.5°	1647.4	1644.2	1789.7	2048.3	2097.5
45°	1560.1	1567.1	1696.1	1964.8	2038.1
47.5°	1470.8	1479.9	1607.2	1873.2	1964.2
50°	1366.9	1378.7	1528.0	1791.9	1909.1
52.5°	1254.5	1277.0	1451.0	1714.8	1833.1
55°	1149.1	1167.8	1353.0	1649.0	1780.1
57.5°	1052.8	1064.0	1251.9	1566.0	1665.0
60°	958.0	960.7	1156.6	1474.0	1568.7
62.5°	849.4	854.2	1058.6	1365.3	1492.2
65°	727.4	750.4	953.2	1261.5	1376.0
67.5°	613.4	653.5	845.6	1166.2	1226.2
70°	491.3	559.3	740.2	1054.4	1096.6
72.5°	379.5	459.2	632.1	929.1	988.5
75°	275.1	364.5	531.5	816.7	868.1
77.5°	185.2	276.2	437.3	692.6	760.5
80°	110.8	201.8	353.2	577.5	654.0
82.5°	56.7	135.4	274.0	484.4	552.9
85°	24.6	85.6	207.1	401.9	461.4
87.5°	7.0	48.7	152.5	324.9	375.2
90°	0.5	25.7	108.6	254.8	300.3
92.5°	0.5	12.3	76.5	192.7	227.5
95°	0.5	6.4	47.6	139.7	170.7
97.5°	0.5	3.7	28.9	99.0	125.2
100°	0.5	3.2	17.1	65.8	89.4
102.5°	0.5	3.7	11.8	41.7	58.3
105°	0.5	3.7	9.6	27.3	38.5
107.5°	1.1	3.7	8.6	20.3	26.8
110°	0.5	3.2	9.1	15.5	20.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.1	2.7	8.6	12.8	15.5
115°	0.5	2.1	7.5	12.3	12.8
117.5°	1.1	1.6	5.9	12.3	12.8
120°	1.1	1.1	4.8	11.8	13.4
122.5°	1.1	1.1	3.7	10.7	12.8
125°	0.5	1.1	3.2	8.0	11.2
127.5°	1.1	1.1	2.7	6.4	8.6
130°	1.1	1.1	2.1	4.8	6.4
132.5°	1.1	1.1	1.6	3.7	4.8
135°	1.1	1.1	1.1	2.7	3.7
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)