

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: P518165

Luminaire Tested: HVL8-8-LD4-1HI-40-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: P518165
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1HI-40-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8651.0 lumens
Efficiency: N/A
Efficacy: 100.6 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

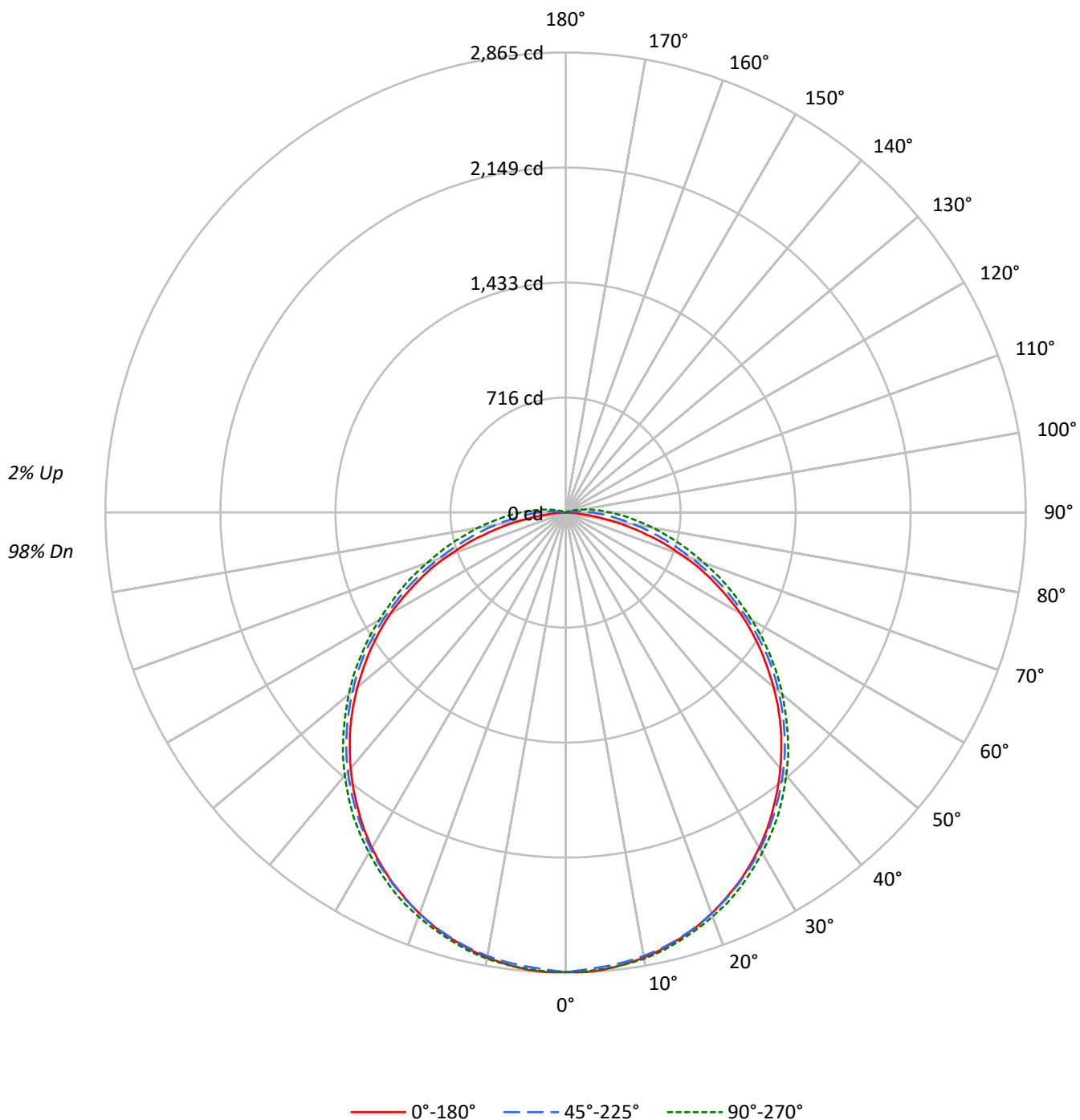
Input Watts (W): 86
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			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°	5775	5775	5775
5°	5774	5653	5651
10°	5746	5558	5538
15°	5707	5453	5402
20°	5665	5334	5270
25°	5613	5212	5136
30°	5551	5081	4983
35°	5471	4937	4832
40°	5388	4784	4656
45°	5299	4618	4466
50°	5181	4424	4262
55°	5054	4212	4036
60°	4903	3933	3773
65°	4647	3621	3512
70°	4269	3252	3209
75°	3723	2846	2933
80°	2889	2450	2681
85°	1665	2052	2441

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5299 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	270.8	3.1
10°-20°	776.7	9.0
20°-30°	1178.5	13.6
30°-40°	1424.9	16.5
40°-50°	1486.8	17.2
50°-60°	1359.4	15.7
60°-70°	1059.7	12.2
70°-80°	662.9	7.7
80°-90°	301.1	3.5
90°-100°	100.9	1.2
100°-110°	25.3	0.3
110°-120°	4.0	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°	2225.9	25.7
0°-40°	3650.8	42.2
0°-60°	6497.0	75.1
0°-90°	8520.7	98.5
90°-120°	130.2	1.5
90°-150°	130.2	1.5
90°-180°	130.0	1.5
0°-180°	8651.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2861	2861	2861	2861	2861	
5°	2855	2850	2837	2850	2850	271
15°	2747	2751	2744	2759	2759	775
25°	2545	2547	2550	2571	2575	1173
35°	2253	2263	2272	2295	2305	1410
45°	1895	1912	1928	1947	1956	1460
55°	1479	1497	1524	1547	1557	1321
65°	1016	1034	1070	1112	1130	1006
75°	515	546	626	701	727	549
85°	89	165	283	374	407	113
90°	1	61	167	250	281	4
95°	1	16	86	156	181	1
105°	1	2	14	42	56	1
115°	2	2	3	7	11	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°	2861.2	2861.2	2861.2	2861.2	2861.2
2.5°	2864.6	2860.6	2847.7	2860.6	2859.9
5°	2855.2	2849.8	2836.9	2850.4	2850.4
7.5°	2836.3	2834.2	2822.8	2838.3	2838.3
10°	2814.0	2813.3	2803.9	2820.8	2821.4
12.5°	2783.0	2785.7	2776.9	2793.1	2795.1
15°	2746.6	2751.3	2743.9	2759.4	2758.7
17.5°	2706.8	2709.5	2704.1	2721.6	2720.9
20°	2657.5	2660.9	2656.9	2675.1	2677.1
22.5°	2602.9	2607.6	2606.9	2625.8	2631.2
25°	2544.9	2546.9	2549.6	2571.2	2575.2
27.5°	2480.8	2484.2	2488.9	2508.5	2512.5
30°	2410.7	2416.1	2421.5	2441.7	2447.1
32.5°	2336.5	2341.9	2348.6	2374.9	2377.6
35°	2252.8	2262.9	2272.4	2295.3	2304.8
37.5°	2169.2	2182.0	2190.8	2215.1	2222.5
40°	2080.8	2093.6	2107.8	2133.4	2138.2
42.5°	1988.4	2003.3	2020.1	2043.1	2051.2
45°	1895.3	1912.2	1927.7	1946.6	1956.0
47.5°	1794.8	1811.7	1830.6	1852.2	1858.2
50°	1691.0	1710.5	1730.8	1751.0	1761.8
52.5°	1584.4	1608.0	1630.9	1652.5	1662.6
55°	1479.2	1496.7	1524.4	1546.6	1556.7
57.5°	1369.9	1384.7	1409.7	1446.1	1451.5
60°	1258.6	1272.1	1297.7	1327.4	1339.6
62.5°	1135.9	1154.1	1181.0	1218.8	1229.6
65°	1016.5	1034.0	1069.8	1112.3	1129.8
67.5°	901.1	907.2	953.1	997.6	1025.9
70°	764.9	787.8	841.1	895.7	917.3
72.5°	647.5	670.5	729.1	793.2	820.2
75°	514.6	546.3	625.9	700.8	727.1
77.5°	398.0	433.0	531.5	607.0	637.4
80°	277.9	332.5	439.8	524.8	557.8
82.5°	174.7	242.1	356.8	445.8	474.8
85°	89.0	164.6	282.6	373.7	406.7
87.5°	23.6	106.6	219.9	306.9	340.6
90°	0.7	61.4	166.6	250.2	280.6
92.5°	0.7	34.4	124.1	199.0	230.0
95°	0.7	16.2	86.3	156.5	180.8
97.5°	0.7	6.7	59.4	118.0	142.3
100°	0.7	3.4	37.8	85.7	106.6
102.5°	1.3	2.0	23.6	61.4	78.2
105°	1.3	2.0	14.2	41.8	56.0
107.5°	1.3	2.0	8.1	28.3	38.4
110°	2.0	2.0	4.7	17.5	25.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.0	2.0	2.7	11.5	16.9
115°	2.0	2.0	2.7	7.4	10.8
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)