

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: P518229

Luminaire Tested: HVL8-8-LD4-2LO-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: P518229
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2LO-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: 8327.0 lumens
Efficiency: N/A
Efficacy: 90.3 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

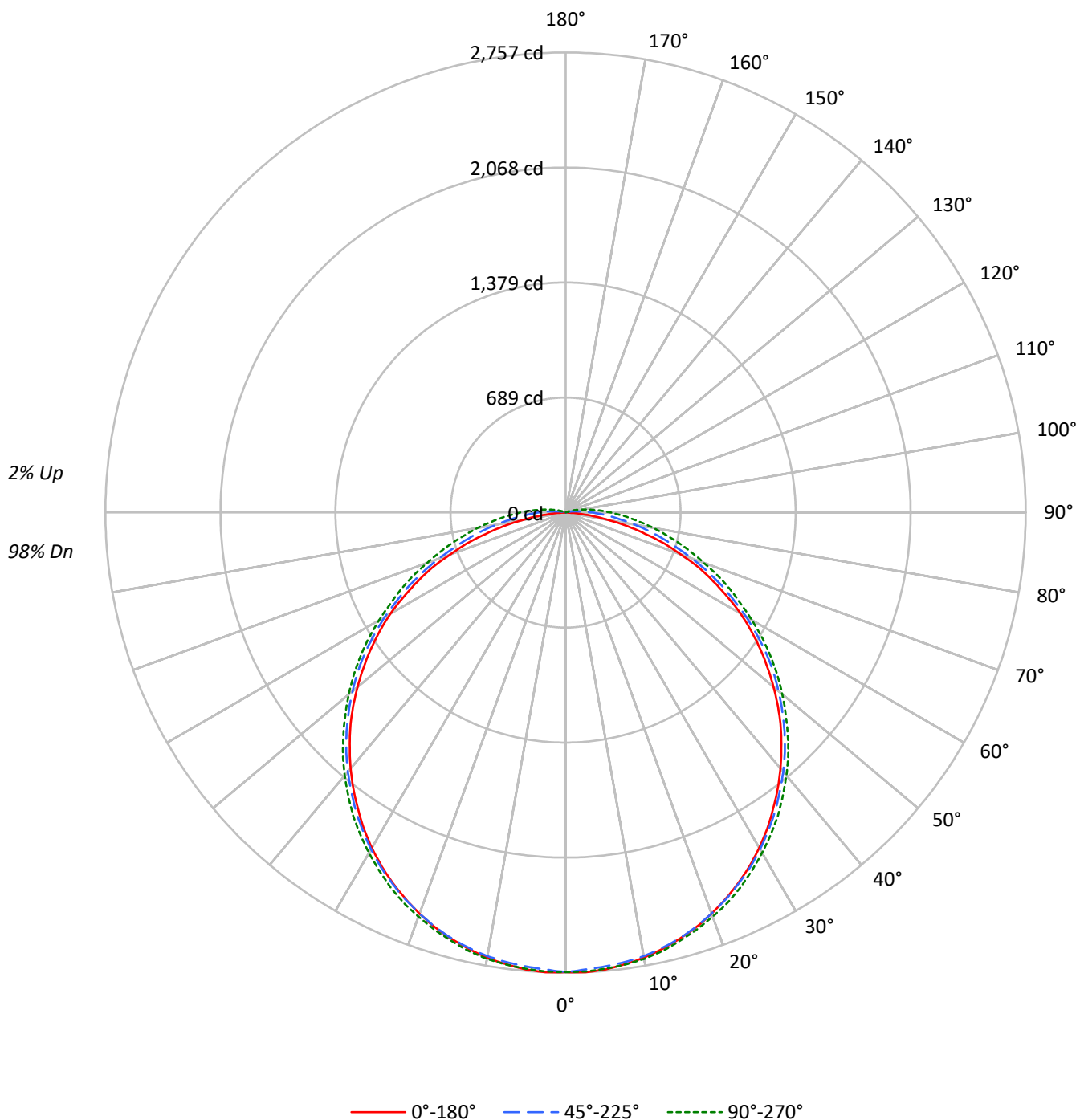
Input Watts (W): 92.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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					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°	5558	5558	5558
5°	5558	5441	5440
10°	5531	5350	5331
15°	5493	5249	5200
20°	5453	5135	5073
25°	5402	5017	4944
30°	5343	4891	4797
35°	5266	4752	4651
40°	5186	4605	4482
45°	5101	4445	4299
50°	4987	4259	4102
55°	4865	4054	3885
60°	4720	3786	3632
65°	4473	3486	3381
70°	4109	3130	3089
75°	3584	2740	2823
80°	2780	2358	2581
85°	1603	1975	2350

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5101 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	260.6	3.1
10°-20°	747.6	9.0
20°-30°	1134.3	13.6
30°-40°	1371.6	16.5
40°-50°	1431.1	17.2
50°-60°	1308.5	15.7
60°-70°	1020.0	12.2
70°-80°	638.1	7.7
80°-90°	289.8	3.5
90°-100°	97.1	1.2
100°-110°	24.4	0.3
110°-120°	3.8	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°	2142.5	25.7
0°-40°	3514.1	42.2
0°-60°	6253.7	75.1
0°-90°	8201.7	98.5
90°-120°	125.3	1.5
90°-150°	125.3	1.5
90°-180°	125.0	1.5
0°-180°	8327.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2754	2754	2754	2754	2754	
5°	2748	2743	2731	2744	2744	261
15°	2644	2648	2641	2656	2655	746
25°	2450	2452	2454	2475	2479	1129
35°	2168	2178	2187	2209	2218	1357
45°	1824	1841	1856	1874	1883	1406
55°	1424	1441	1467	1489	1498	1272
65°	978	995	1030	1071	1088	968
75°	495	526	602	675	700	528
85°	86	158	272	360	392	108
90°	1	59	160	241	270	3
95°	1	16	83	151	174	0
105°	1	2	14	40	54	1
115°	2	2	3	7	10	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°	2754.1	2754.1	2754.1	2754.1	2754.1
2.5°	2757.3	2753.4	2741.1	2753.4	2752.8
5°	2748.2	2743.0	2730.7	2743.7	2743.7
7.5°	2730.0	2728.1	2717.1	2732.0	2732.0
10°	2708.6	2708.0	2698.9	2715.1	2715.8
12.5°	2678.8	2681.4	2672.9	2688.5	2690.4
15°	2643.7	2648.2	2641.1	2656.0	2655.4
17.5°	2605.4	2608.0	2602.8	2619.7	2619.0
20°	2558.0	2561.2	2557.3	2574.9	2576.8
22.5°	2505.4	2510.0	2509.3	2527.5	2532.7
25°	2449.6	2451.5	2454.1	2474.9	2478.8
27.5°	2387.9	2391.1	2395.7	2414.5	2418.4
30°	2320.4	2325.6	2330.8	2350.2	2355.4
32.5°	2249.0	2254.2	2260.6	2286.0	2288.6
35°	2168.5	2178.2	2187.3	2209.4	2218.4
37.5°	2088.0	2100.3	2108.7	2132.1	2139.2
40°	2002.9	2015.2	2028.9	2053.5	2058.1
42.5°	1914.0	1928.2	1944.5	1966.5	1974.3
45°	1824.4	1840.6	1855.5	1873.7	1882.8
47.5°	1727.6	1743.9	1762.0	1782.8	1788.7
50°	1627.6	1646.5	1665.9	1685.4	1695.8
52.5°	1525.1	1547.8	1569.9	1590.6	1600.4
55°	1423.8	1440.7	1467.3	1488.7	1498.4
57.5°	1318.6	1332.9	1356.9	1392.0	1397.2
60°	1211.5	1224.5	1249.1	1277.7	1289.4
62.5°	1093.3	1110.8	1136.8	1173.2	1183.6
65°	978.4	995.3	1029.7	1070.6	1087.5
67.5°	867.4	873.2	917.4	960.2	987.5
70°	736.2	758.3	809.6	862.2	883.0
72.5°	623.3	645.3	701.8	763.5	789.5
75°	495.4	525.9	602.5	674.6	699.9
77.5°	383.1	416.8	511.6	584.3	613.5
80°	267.5	320.1	423.3	505.1	536.9
82.5°	168.2	233.1	343.4	429.1	457.1
85°	85.7	158.4	272.0	359.7	391.5
87.5°	22.7	102.6	211.7	295.4	327.9
90°	0.6	59.1	160.4	240.9	270.1
92.5°	0.6	33.1	119.5	191.5	221.4
95°	0.6	15.6	83.1	150.6	174.0
97.5°	0.6	6.5	57.1	113.6	137.0
100°	0.6	3.2	36.4	82.5	102.6
102.5°	1.3	1.9	22.7	59.1	75.3
105°	1.3	1.9	13.6	40.3	53.9
107.5°	1.3	1.9	7.8	27.3	37.0
110°	1.9	1.9	4.5	16.9	24.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.9	1.9	2.6	11.0	16.2
115°	1.9	1.9	2.6	7.1	10.4
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)