

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: P517670

Luminaire Tested: HVL12-8-LD4-2STD-40-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: P517670
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2STD-40-UNV-O-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11199.0 lumens
Efficiency: N/A
Efficacy: 83.4 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

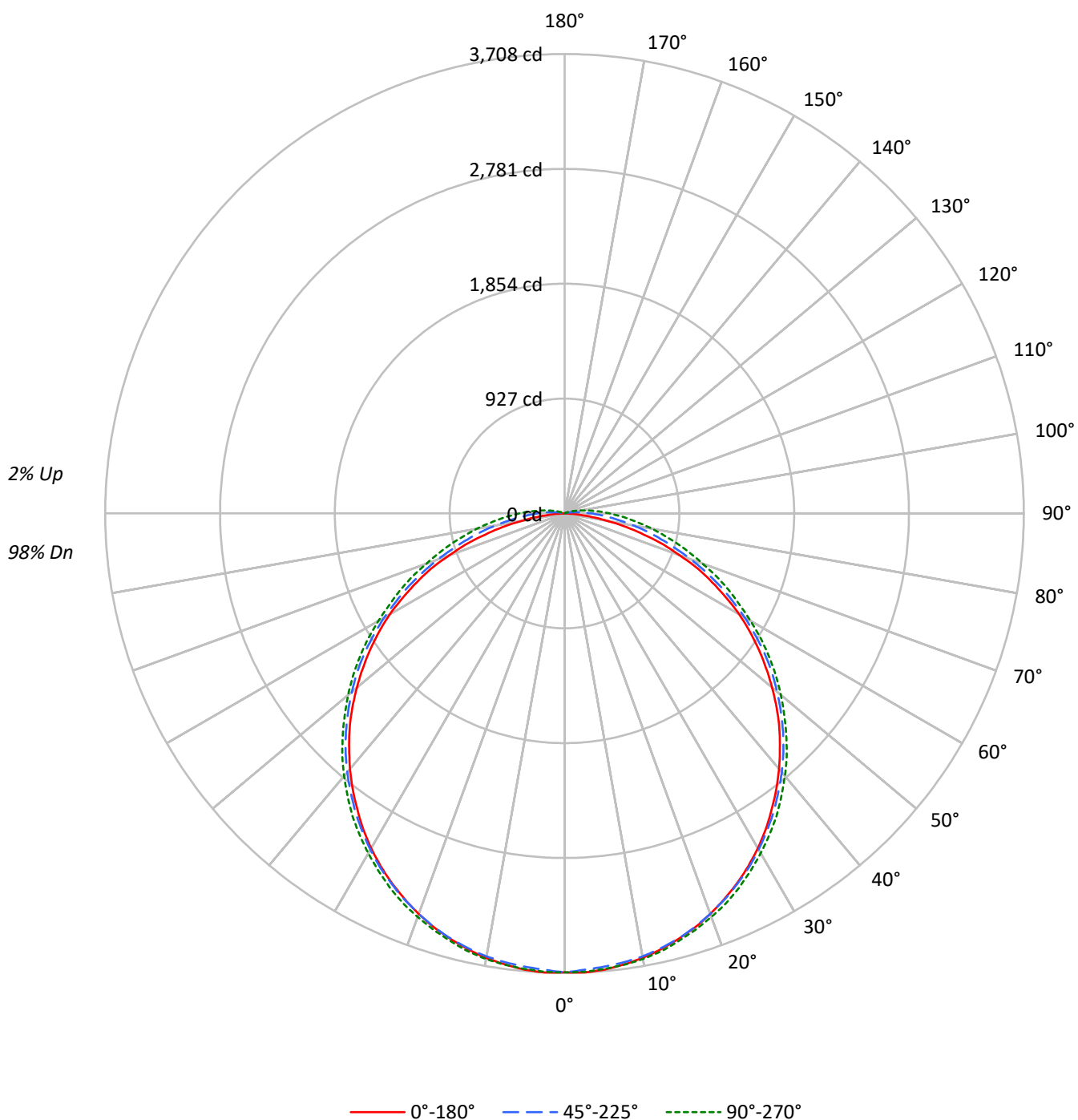
Input Watts (W): 134.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	4984	4984	4984
5°	4983	4903	4912
10°	4959	4846	4848
15°	4925	4778	4762
20°	4889	4698	4678
25°	4844	4615	4592
30°	4791	4524	4490
35°	4721	4421	4388
40°	4650	4313	4265
45°	4573	4192	4130
50°	4471	4050	3983
55°	4362	3892	3818
60°	4232	3676	3621
65°	4010	3433	3430
70°	3684	3139	3204
75°	3213	2818	3017
80°	2493	2518	2876
85°	1438	2245	2798

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4573 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	350.5	3.1
10°-20°	1005.4	9.0
20°-30°	1525.5	13.6
30°-40°	1844.6	16.5
40°-50°	1924.7	17.2
50°-60°	1759.8	15.7
60°-70°	1371.8	12.2
70°-80°	858.2	7.7
80°-90°	389.8	3.5
90°-100°	130.6	1.2
100°-110°	32.8	0.3
110°-120°	5.2	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°	2881.5	25.7
0°-40°	4726.1	42.2
0°-60°	8410.6	75.1
0°-90°	11030.4	98.5
90°-120°	168.6	1.5
90°-150°	168.6	1.5
90°-180°	169.0	1.5
0°-180°	11199.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3704	3704	3704	3704	3704	
5°	3696	3689	3672	3690	3690	351
15°	3556	3562	3552	3572	3571	1004
25°	3294	3297	3301	3328	3334	1518
35°	2916	2930	2942	2971	2984	1825
45°	2454	2475	2496	2520	2532	1891
55°	1915	1938	1973	2002	2015	1711
65°	1316	1339	1385	1440	1462	1302
75°	666	707	810	907	941	710
85°	115	213	366	484	526	146
90°	1	80	216	324	363	5
95°	1	21	112	203	234	1
105°	2	3	18	54	72	2
115°	3	3	4	10	14	2
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°	3704.0	3704.0	3704.0	3704.0	3704.0
2.5°	3708.3	3703.1	3686.5	3703.1	3702.2
5°	3696.1	3689.1	3672.5	3690.0	3690.0
7.5°	3671.6	3669.0	3654.2	3674.3	3674.3
10°	3642.8	3642.0	3629.7	3651.6	3652.4
12.5°	3602.7	3606.2	3594.8	3615.8	3618.4
15°	3555.5	3561.6	3552.0	3572.1	3571.2
17.5°	3504.0	3507.5	3500.5	3523.2	3522.3
20°	3440.3	3444.6	3439.4	3463.0	3465.6
22.5°	3369.5	3375.6	3374.8	3399.2	3406.2
25°	3294.4	3297.1	3300.6	3328.5	3333.7
27.5°	3211.5	3215.9	3222.0	3247.3	3252.5
30°	3120.7	3127.7	3134.7	3160.8	3167.8
32.5°	3024.6	3031.6	3040.3	3074.4	3077.9
35°	2916.4	2929.5	2941.7	2971.4	2983.6
37.5°	2808.1	2824.7	2836.0	2867.5	2877.1
40°	2693.7	2710.3	2728.6	2761.8	2767.9
42.5°	2574.1	2593.3	2615.1	2644.8	2655.3
45°	2453.6	2475.4	2495.5	2519.9	2532.2
47.5°	2323.5	2345.3	2369.8	2397.7	2405.6
50°	2189.0	2214.3	2240.5	2266.7	2280.7
52.5°	2051.1	2081.6	2111.3	2139.2	2152.3
55°	1914.8	1937.5	1973.3	2002.2	2015.3
57.5°	1773.4	1792.6	1824.9	1872.1	1879.0
60°	1629.3	1646.8	1680.0	1718.4	1734.1
62.5°	1470.4	1494.0	1528.9	1577.8	1591.8
65°	1315.9	1338.6	1384.8	1439.8	1462.5
67.5°	1166.5	1174.4	1233.8	1291.4	1328.1
70°	990.2	1019.9	1088.8	1159.6	1187.5
72.5°	838.2	867.9	943.9	1026.8	1061.8
75°	666.2	707.3	810.3	907.2	941.3
77.5°	515.2	560.6	688.1	785.8	825.1
80°	359.7	430.5	569.3	679.3	722.1
82.5°	226.1	313.5	461.9	577.2	614.7
85°	115.3	213.1	365.9	483.7	526.5
87.5°	30.6	138.0	284.7	397.3	440.9
90°	0.9	79.5	215.7	323.9	363.2
92.5°	0.9	44.5	160.7	257.6	297.7
95°	0.9	21.0	111.8	202.6	234.0
97.5°	0.9	8.7	76.8	152.8	184.2
100°	0.9	4.4	48.9	110.9	138.0
102.5°	1.7	2.6	30.6	79.5	101.3
105°	1.7	2.6	18.3	54.1	72.5
107.5°	1.7	2.6	10.5	36.7	49.8
110°	2.6	2.6	6.1	22.7	33.2

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CATALOG NUMBER: HVL12-8-LD4-2STD-40-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.6	2.6	3.5	14.8	21.8
115°	2.6	2.6	3.5	9.6	14.0
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)