

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: P517774

Luminaire Tested: HVL8-1-LD4-2HI-30-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: P517774
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-2HI-30-UNV-O-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1937.0 lumens
Efficiency: N/A
Efficacy: 90.1 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

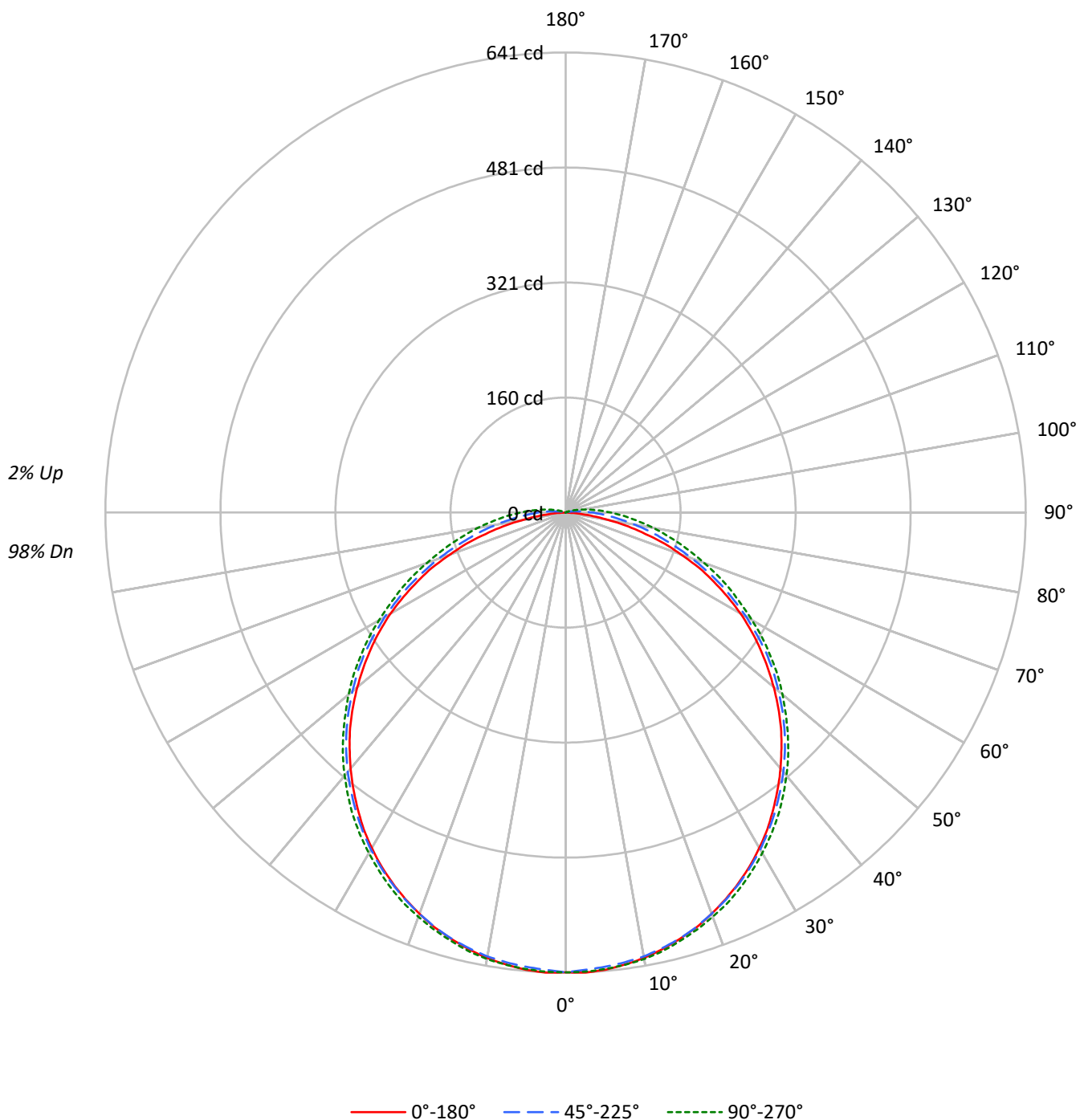
Input Watts (W): 21.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	10343	10343	10343
5°	10213	10036	10122
10°	10035	9784	9919
15°	9840	9518	9677
20°	9639	9231	9440
25°	9419	8942	9199
30°	9180	8639	8926
35°	8903	8313	8655
40°	8615	7974	8340
45°	8306	7612	8001
50°	7934	7204	7634
55°	7530	6762	7231
60°	7061	6213	6758
65°	6405	5607	6292
70°	5546	4912	5748
75°	4430	4165	5253
80°	2973	3429	4803
85°	1269	2684	4374

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 8306 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.6	3.1
10°-20°	173.9	9.0
20°-30°	263.9	13.6
30°-40°	319.1	16.5
40°-50°	332.9	17.2
50°-60°	304.4	15.7
60°-70°	237.3	12.2
70°-80°	148.4	7.7
80°-90°	67.4	3.5
90°-100°	22.6	1.2
100°-110°	5.7	0.3
110°-120°	0.9	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°	498.4	25.7
0°-40°	817.4	42.2
0°-60°	1454.7	75.1
0°-90°	1907.8	98.5
90°-120°	29.2	1.5
90°-150°	29.2	1.5
90°-180°	29.0	1.5
0°-180°	1937.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	641	641	641	641	641	
5°	639	638	635	638	638	61
15°	615	616	614	618	618	174
25°	570	570	571	576	577	263
35°	504	507	509	514	516	316
45°	424	428	432	436	438	327
55°	331	335	341	346	349	296
65°	228	232	240	249	253	225
75°	115	122	140	157	163	123
85°	20	37	63	84	91	25
90°	0	14	37	56	63	1
95°	0	4	19	35	40	0
105°	0	0	3	9	12	0
115°	0	0	1	2	2	0
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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CATALOG NUMBER: HVL8-1-LD4-2HI-30-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	640.6	640.6	640.6	640.6	640.6
2.5°	641.4	640.5	637.6	640.5	640.3
5°	639.3	638.1	635.2	638.2	638.2
7.5°	635.1	634.6	632.0	635.5	635.5
10°	630.1	629.9	627.8	631.6	631.7
12.5°	623.1	623.7	621.8	625.4	625.8
15°	615.0	616.0	614.4	617.8	617.7
17.5°	606.1	606.7	605.5	609.4	609.2
20°	595.0	595.8	594.9	599.0	599.4
22.5°	582.8	583.9	583.7	587.9	589.1
25°	569.8	570.3	570.9	575.7	576.6
27.5°	555.5	556.2	557.3	561.7	562.6
30°	539.8	541.0	542.2	546.7	547.9
32.5°	523.1	524.4	525.9	531.8	532.4
35°	504.4	506.7	508.8	513.9	516.0
37.5°	485.7	488.6	490.5	496.0	497.6
40°	465.9	468.8	471.9	477.7	478.7
42.5°	445.2	448.5	452.3	457.5	459.3
45°	424.4	428.2	431.6	435.9	438.0
47.5°	401.9	405.6	409.9	414.7	416.1
50°	378.6	383.0	387.5	392.1	394.5
52.5°	354.8	360.0	365.2	370.0	372.3
55°	331.2	335.1	341.3	346.3	348.6
57.5°	306.7	310.1	315.6	323.8	325.0
60°	281.8	284.8	290.6	297.2	299.9
62.5°	254.3	258.4	264.4	272.9	275.3
65°	227.6	231.5	239.5	249.0	253.0
67.5°	201.8	203.1	213.4	223.4	229.7
70°	171.3	176.4	188.3	200.6	205.4
72.5°	145.0	150.1	163.3	177.6	183.6
75°	115.2	122.3	140.2	156.9	162.8
77.5°	89.1	97.0	119.0	135.9	142.7
80°	62.2	74.5	98.5	117.5	124.9
82.5°	39.1	54.2	79.9	99.8	106.3
85°	19.9	36.8	63.3	83.7	91.1
87.5°	5.3	23.9	49.2	68.7	76.3
90°	0.2	13.7	37.3	56.0	62.8
92.5°	0.2	7.7	27.8	44.6	51.5
95°	0.2	3.6	19.3	35.0	40.5
97.5°	0.2	1.5	13.3	26.4	31.9
100°	0.2	0.8	8.5	19.2	23.9
102.5°	0.3	0.5	5.3	13.7	17.5
105°	0.3	0.5	3.2	9.4	12.5
107.5°	0.3	0.5	1.8	6.3	8.6
110°	0.5	0.5	1.1	3.9	5.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.5	0.5	0.6	2.6	3.8
115°	0.5	0.5	0.6	1.7	2.4
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)