

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: P517869

Luminaire Tested: HVL8-2-LD4-1HI-30-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: P517869
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-1HI-30-UNV-O-EDD-90
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2040.0 lumens
Efficiency: N/A
Efficacy: 94.9 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

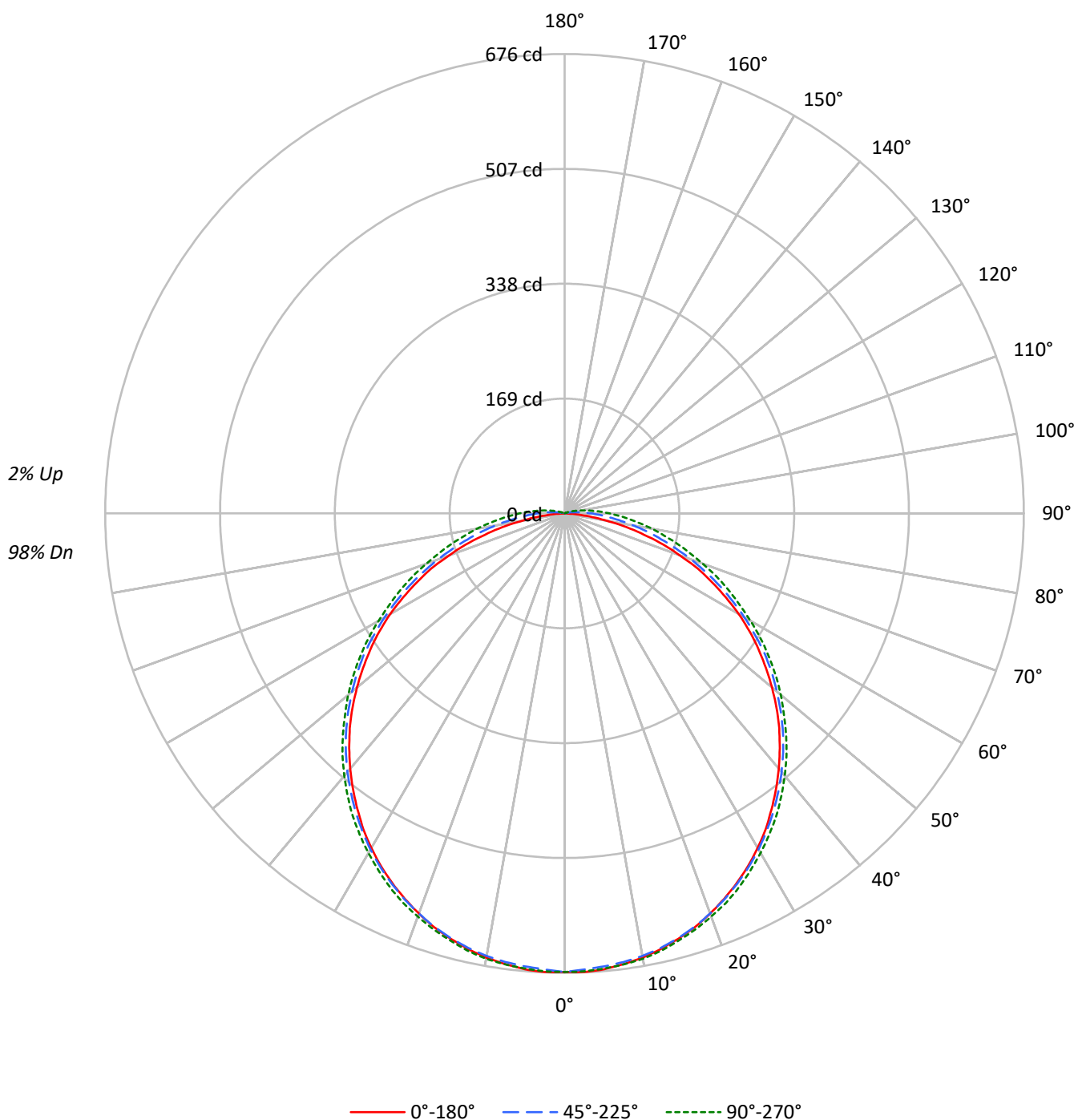
Input Watts (W): 21.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	5447	5447	5447
5°	5417	5312	5331
10°	5361	5204	5223
15°	5295	5086	5095
20°	5225	4957	4971
25°	5145	4825	4845
30°	5056	4685	4700
35°	4946	4533	4558
40°	4833	4373	4392
45°	4710	4200	4213
50°	4555	4001	4020
55°	4387	3785	3807
60°	4188	3508	3559
65°	3884	3201	3313
70°	3465	2841	3026
75°	2888	2449	2767
80°	2068	2063	2528
85°	996	1670	2302

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4710 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.8	3.1
10°-20°	183.1	9.0
20°-30°	277.9	13.6
30°-40°	336.0	16.5
40°-50°	350.6	17.2
50°-60°	320.6	15.7
60°-70°	249.9	12.2
70°-80°	156.3	7.7
80°-90°	71.0	3.5
90°-100°	23.8	1.2
100°-110°	6.0	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°	524.9	25.7
0°-40°	860.9	42.2
0°-60°	1532.1	75.1
0°-90°	2009.2	98.5
90°-120°	30.7	1.5
90°-150°	30.7	1.5
90°-180°	31.0	1.5
0°-180°	2040.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	675	675	675	675	675	
5°	673	672	669	672	672	64
15°	648	649	647	651	650	183
25°	600	601	601	606	607	277
35°	531	534	536	541	544	333
45°	447	451	455	459	461	344
55°	349	353	360	365	367	312
65°	240	244	252	262	266	237
75°	121	129	148	165	172	129
85°	21	39	67	88	96	27
90°	0	14	39	59	66	1
95°	0	4	20	37	43	0
105°	0	0	3	10	13	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: HVL8-2-LD4-1HI-30-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	674.7	674.7	674.7	674.7	674.7
2.5°	675.5	674.5	671.5	674.5	674.4
5°	673.3	672.0	669.0	672.2	672.2
7.5°	668.8	668.3	665.6	669.3	669.3
10°	663.6	663.4	661.2	665.2	665.3
12.5°	656.3	656.9	654.8	658.6	659.1
15°	647.7	648.8	647.0	650.7	650.5
17.5°	638.3	638.9	637.6	641.8	641.6
20°	626.7	627.5	626.5	630.8	631.3
22.5°	613.8	614.9	614.7	619.2	620.5
25°	600.1	600.6	601.2	606.3	607.3
27.5°	585.0	585.8	586.9	591.5	592.5
30°	568.5	569.7	571.0	575.8	577.0
32.5°	551.0	552.2	553.8	560.0	560.7
35°	531.2	533.6	535.9	541.3	543.5
37.5°	511.5	514.5	516.6	522.3	524.1
40°	490.7	493.7	497.0	503.1	504.2
42.5°	468.9	472.4	476.4	481.8	483.7
45°	446.9	450.9	454.6	459.0	461.3
47.5°	423.2	427.2	431.7	436.8	438.2
50°	398.7	403.4	408.1	412.9	415.5
52.5°	373.6	379.2	384.6	389.7	392.1
55°	348.8	352.9	359.5	364.7	367.1
57.5°	323.0	326.5	332.4	341.0	342.3
60°	296.8	300.0	306.0	313.0	315.9
62.5°	267.8	272.1	278.5	287.4	290.0
65°	239.7	243.8	252.3	262.3	266.4
67.5°	212.5	213.9	224.7	235.2	241.9
70°	180.4	185.8	198.3	211.2	216.3
72.5°	152.7	158.1	171.9	187.0	193.4
75°	121.4	128.8	147.6	165.3	171.5
77.5°	93.8	102.1	125.3	143.1	150.3
80°	65.5	78.4	103.7	123.7	131.5
82.5°	41.2	57.1	84.1	105.1	112.0
85°	21.0	38.8	66.6	88.1	95.9
87.5°	5.6	25.1	51.9	72.4	80.3
90°	0.2	14.5	39.3	59.0	66.2
92.5°	0.2	8.1	29.3	46.9	54.2
95°	0.2	3.8	20.4	36.9	42.6
97.5°	0.2	1.6	14.0	27.8	33.6
100°	0.2	0.8	8.9	20.2	25.1
102.5°	0.3	0.5	5.6	14.5	18.5
105°	0.3	0.5	3.3	9.9	13.2
107.5°	0.3	0.5	1.9	6.7	9.1
110°	0.5	0.5	1.1	4.1	6.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.5	0.5	0.6	2.7	4.0
115°	0.5	0.5	0.6	1.7	2.5
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)