

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: P517940

Luminaire Tested: HVL8-2-LD4-2LO-40-UNV-C-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: P517940
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-2LO-40-UNV-C-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2736.0 lumens
Efficiency: N/A
Efficacy: 118.4 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

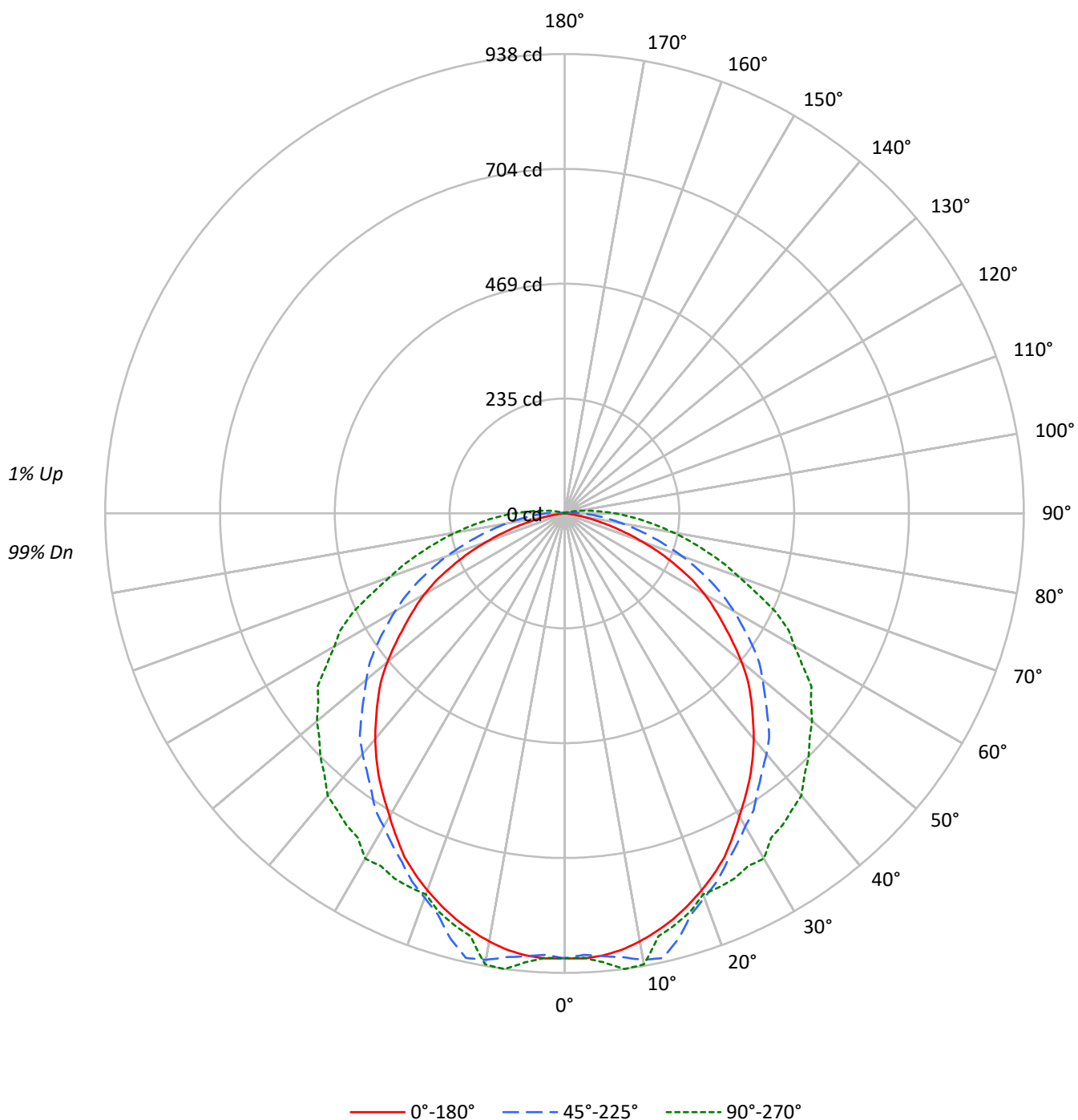
Input Watts (W): 23.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	78	73	80	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	51	62	56	51	60	54	50			47
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	39	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°	7332	7332	7332
5°	7289	7204	7296
10°	7167	7283	7341
15°	7010	7068	6814
20°	6826	6605	6516
25°	6632	6303	6557
30°	6353	6057	6629
35°	6145	5823	6512
40°	5923	5643	6552
45°	5683	5417	6434
50°	5398	5179	6385
55°	4996	4925	6381
60°	4673	4584	6110
65°	4074	4181	5915
70°	3261	3666	5304
75°	2263	3048	4842
80°	1209	2429	4347
85°	403	1795	3829

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 6434 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.3	3.2
10°-20°	248.6	9.1
20°-30°	369.9	13.5
30°-40°	444.6	16.2
40°-50°	467.9	17.1
50°-60°	434.2	15.9
60°-70°	343.3	12.5
70°-80°	209.7	7.7
80°-90°	91.4	3.3
90°-100°	28.5	1.0
100°-110°	6.4	0.2
110°-120°	2.6	0.1
120°-130°	1.5	0.1
130°-140°	0.4	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°	705.7	25.8
0°-40°	1150.3	42.0
0°-60°	2052.4	75.0
0°-90°	2696.8	98.6
90°-120°	37.4	1.4
90°-150°	39.3	1.4
90°-180°	39.0	1.4
0°-180°	2736.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	908	908	908	908	908	
5°	906	904	907	918	920	86
15°	858	890	899	869	870	242
25°	774	823	785	809	822	355
35°	660	678	688	751	776	412
45°	539	542	586	679	704	416
55°	397	404	468	570	615	357
65°	251	259	330	436	476	249
75°	95	126	184	282	300	104
85°	8	30	72	139	160	13
90°	0	9	38	88	104	0
95°	0	2	16	48	59	0
105°	0	1	3	9	13	0
115°	0	1	3	4	4	0
125°	0	0	1	3	4	0
135°	0	0	0	1	1	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-LD4-2LO-40-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	908.2	908.2	908.2	908.2	908.2
2.5°	909.3	906.9	901.9	906.7	908.0
5°	906.0	904.1	907.3	917.5	920.0
7.5°	898.4	905.4	913.8	932.3	938.2
10°	887.1	900.4	925.4	941.1	935.0
12.5°	873.4	896.0	929.5	898.8	884.5
15°	857.5	890.4	899.1	869.4	869.9
17.5°	838.8	885.8	859.0	858.3	852.9
20°	818.7	870.3	834.8	833.3	827.5
22.5°	797.0	849.7	813.3	810.3	825.9
25°	773.5	822.9	785.4	808.9	822.0
27.5°	744.1	787.8	762.0	795.3	811.8
30°	714.3	751.5	738.2	784.6	813.8
32.5°	686.4	713.6	718.6	780.5	785.4
35°	659.9	678.2	688.4	750.9	776.5
37.5°	630.9	635.9	662.9	738.6	763.2
40°	601.3	598.1	641.4	718.2	752.2
42.5°	569.5	568.3	618.7	708.0	725.0
45°	539.3	541.7	586.3	679.2	704.5
47.5°	508.4	511.5	555.6	647.5	679.0
50°	472.5	476.6	528.2	619.4	659.9
52.5°	433.7	441.4	501.6	592.8	633.7
55°	397.2	403.7	467.7	570.0	615.3
57.5°	363.9	367.8	432.7	541.3	575.6
60°	331.2	332.1	399.8	509.5	542.3
62.5°	293.6	295.3	365.9	472.0	515.8
65°	251.4	259.4	329.5	436.1	475.7
67.5°	212.0	225.9	292.3	403.1	423.9
70°	169.8	193.3	255.9	364.5	379.1
72.5°	131.2	158.7	218.5	321.2	341.7
75°	95.1	126.0	183.7	282.3	300.1
77.5°	64.0	95.5	151.2	239.4	262.9
80°	38.3	69.7	122.1	199.6	226.1
82.5°	19.6	46.8	94.7	167.4	191.1
85°	8.5	29.6	71.6	138.9	159.5
87.5°	2.4	16.8	52.7	112.3	129.7
90°	0.2	8.9	37.6	88.1	103.8
92.5°	0.2	4.3	26.5	66.6	78.6
95°	0.2	2.2	16.5	48.3	59.0
97.5°	0.2	1.3	10.0	34.2	43.3
100°	0.2	1.1	5.9	22.8	30.9
102.5°	0.2	1.3	4.1	14.4	20.2
105°	0.2	1.3	3.3	9.4	13.3
107.5°	0.4	1.3	3.0	7.0	9.3
110°	0.2	1.1	3.1	5.4	7.2

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CATALOG NUMBER: HVL8-2-LD4-2LO-40-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.4	0.9	3.0	4.4	5.4
115°	0.2	0.7	2.6	4.3	4.4
117.5°	0.4	0.6	2.0	4.3	4.4
120°	0.4	0.4	1.7	4.1	4.6
122.5°	0.4	0.4	1.3	3.7	4.4
125°	0.2	0.4	1.1	2.8	3.9
127.5°	0.4	0.4	0.9	2.2	3.0
130°	0.4	0.4	0.7	1.7	2.2
132.5°	0.4	0.4	0.6	1.3	1.7
135°	0.4	0.4	0.4	0.9	1.3
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)