

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: P518278

Luminaire Tested: HVL8-8-LD4-3LO-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: P518278
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3LO-40-UNV-O-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13132.0 lumens
Efficiency: N/A
Efficacy: 97.4 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

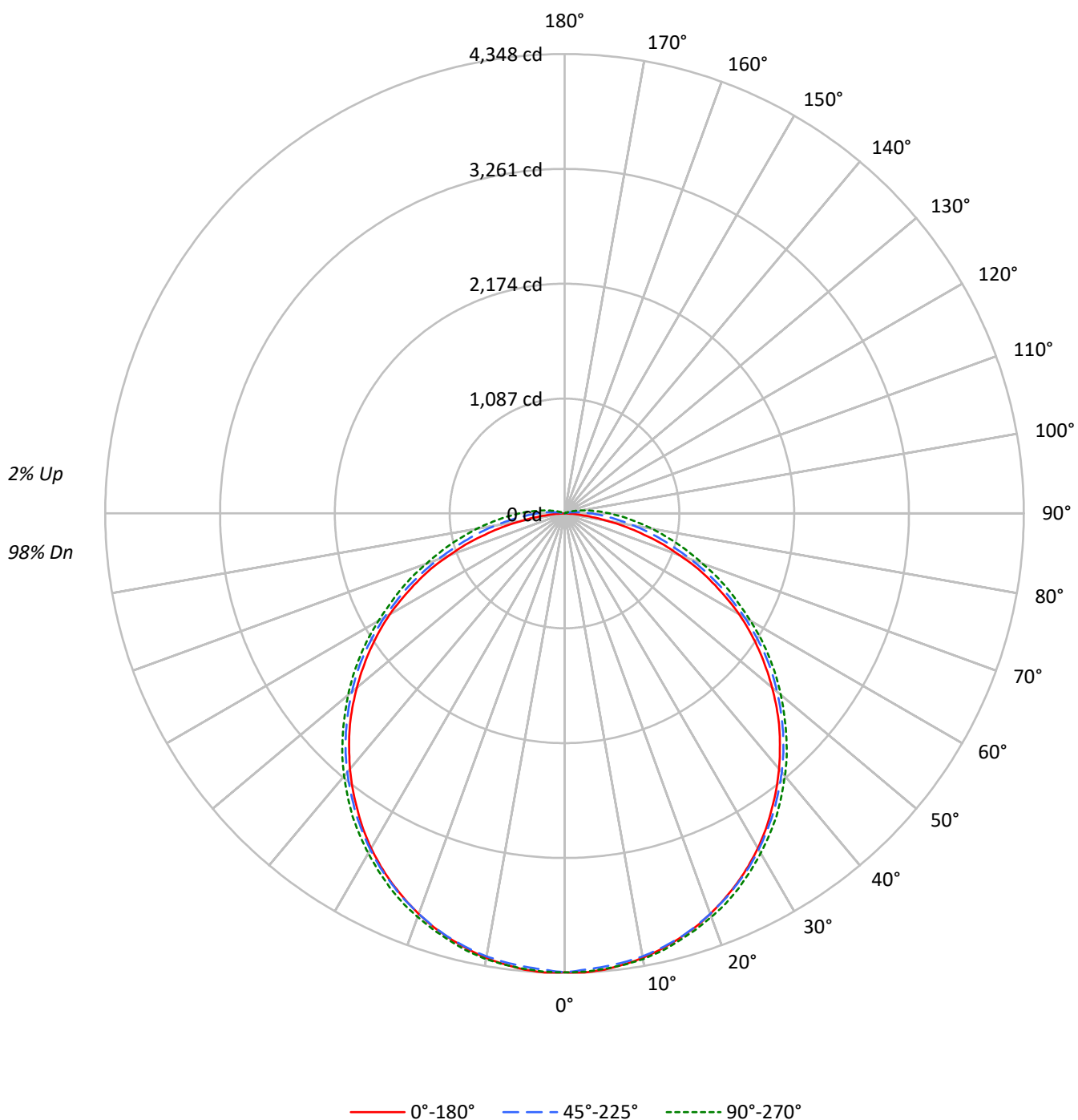
Input Watts (W): 134.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	8766	8766	8766
5°	8765	8581	8578
10°	8722	8438	8407
15°	8663	8278	8200
20°	8599	8097	8000
25°	8520	7912	7796
30°	8426	7713	7565
35°	8304	7494	7336
40°	8179	7262	7068
45°	8044	7009	6780
50°	7864	6716	6469
55°	7673	6393	6127
60°	7443	5971	5727
65°	7053	5497	5331
70°	6481	4936	4871
75°	5652	4321	4452
80°	4384	3719	4070
85°	2529	3115	3706

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 8044 cd/sqm

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CATALOG NUMBER: HVL8-8-LD4-3LO-40-UNV-O-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	411.0	3.1
10°-20°	1179.0	9.0
20°-30°	1788.9	13.6
30°-40°	2163.0	16.5
40°-50°	2257.0	17.2
50°-60°	2063.5	15.7
60°-70°	1608.6	12.2
70°-80°	1006.3	7.7
80°-90°	457.1	3.5
90°-100°	153.2	1.2
100°-110°	38.5	0.3
110°-120°	6.1	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°	3378.8	25.7
0°-40°	5541.8	42.2
0°-60°	9862.3	75.1
0°-90°	12934.3	98.5
90°-120°	197.7	1.5
90°-150°	197.7	1.5
90°-180°	198.0	1.5
0°-180°	13132.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4343	4343	4343	4343	4343	
5°	4334	4326	4306	4327	4327	412
15°	4169	4176	4165	4189	4188	1177
25°	3863	3866	3870	3903	3909	1780
35°	3420	3435	3449	3484	3499	2140
45°	2877	2903	2926	2955	2969	2217
55°	2245	2272	2314	2348	2363	2006
65°	1543	1570	1624	1688	1715	1527
75°	781	829	950	1064	1104	833
85°	135	250	429	567	617	171
90°	1	93	253	380	426	5
95°	1	25	131	238	274	1
105°	2	3	22	64	85	2
115°	3	3	4	11	16	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°	4343.3	4343.3	4343.3	4343.3	4343.3
2.5°	4348.4	4342.2	4322.8	4342.2	4341.2
5°	4334.1	4325.9	4306.4	4326.9	4326.9
7.5°	4305.4	4302.3	4284.9	4308.5	4308.5
10°	4271.6	4270.6	4256.2	4281.8	4282.9
12.5°	4224.5	4228.6	4215.3	4239.9	4242.9
15°	4169.2	4176.4	4165.1	4188.7	4187.6
17.5°	4108.8	4112.9	4104.7	4131.3	4130.3
20°	4034.1	4039.2	4033.0	4060.7	4063.8
22.5°	3951.1	3958.3	3957.3	3985.9	3994.1
25°	3863.1	3866.1	3870.2	3903.0	3909.1
27.5°	3765.8	3770.9	3778.1	3807.8	3813.9
30°	3659.3	3667.5	3675.7	3706.4	3714.6
32.5°	3546.7	3554.9	3565.1	3605.1	3609.2
35°	3419.7	3435.1	3449.4	3484.2	3498.6
37.5°	3292.8	3312.2	3325.5	3362.4	3373.7
40°	3158.7	3178.1	3199.6	3238.5	3245.7
42.5°	3018.4	3040.9	3066.5	3101.3	3113.6
45°	2877.1	2902.7	2926.2	2954.9	2969.2
47.5°	2724.5	2750.1	2778.8	2811.6	2820.8
50°	2566.9	2596.5	2627.3	2658.0	2674.4
52.5°	2405.1	2440.9	2475.7	2508.5	2523.8
55°	2245.4	2272.0	2314.0	2347.7	2363.1
57.5°	2079.5	2102.0	2139.9	2195.2	2203.4
60°	1910.5	1931.0	1969.9	2015.0	2033.4
62.5°	1724.2	1751.8	1792.8	1850.1	1866.5
65°	1543.0	1569.6	1623.9	1688.4	1715.0
67.5°	1367.9	1377.1	1446.7	1514.3	1557.3
70°	1161.1	1195.9	1276.8	1359.7	1392.5
72.5°	982.9	1017.7	1106.8	1204.1	1245.0
75°	781.2	829.3	950.2	1063.8	1103.7
77.5°	604.1	657.3	806.8	921.5	967.6
80°	421.8	504.8	667.6	796.6	846.7
82.5°	265.2	367.6	541.6	676.8	720.8
85°	135.2	249.8	429.0	567.2	617.4
87.5°	35.8	161.8	333.8	465.9	517.1
90°	1.0	93.2	252.9	379.9	425.9
92.5°	1.0	52.2	188.4	302.0	349.1
95°	1.0	24.6	131.1	237.5	274.4
97.5°	1.0	10.2	90.1	179.2	216.0
100°	1.0	5.1	57.3	130.0	161.8
102.5°	2.0	3.1	35.8	93.2	118.8
105°	2.0	3.1	21.5	63.5	85.0
107.5°	2.0	3.1	12.3	43.0	58.4
110°	3.1	3.1	7.2	26.6	38.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.1	3.1	4.1	17.4	25.6
115°	3.1	3.1	4.1	11.3	16.4
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)