

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: P518262

Luminaire Tested: HVL8-8-LD4-3HI-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: P518262
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3HI-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: 21769.0 lumens
Efficiency: N/A
Efficacy: 86.5 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

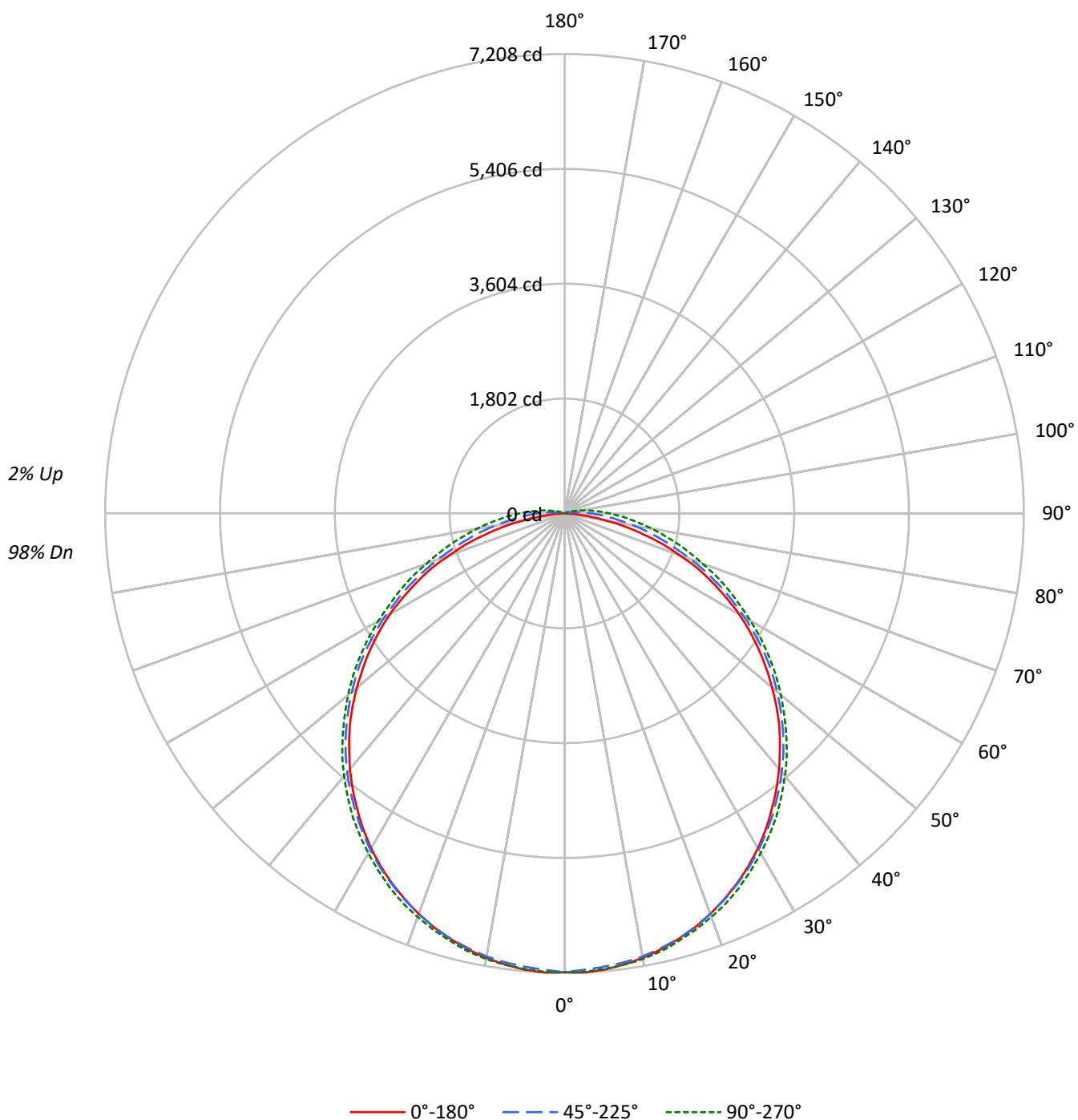
Input Watts (W): 251.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	14531	14531	14531
5°	14529	14224	14220
10°	14459	13987	13935
15°	14360	13722	13594
20°	14255	13423	13261
25°	14123	13115	12924
30°	13969	12786	12540
35°	13766	12422	12160
40°	13558	12039	11717
45°	13335	11620	11239
50°	13036	11133	10724
55°	12718	10598	10157
60°	12339	9898	9494
65°	11692	9112	8837
70°	10742	8183	8074
75°	9370	7162	7380
80°	7269	6165	6747
85°	4189	5164	6143

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 13335 cd/sqm

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	681.3	3.1
10°-20°	1954.4	9.0
20°-30°	2965.4	13.6
30°-40°	3585.7	16.5
40°-50°	3741.4	17.2
50°-60°	3420.7	15.7
60°-70°	2666.6	12.2
70°-80°	1668.1	7.7
80°-90°	757.7	3.5
90°-100°	253.9	1.2
100°-110°	63.7	0.3
110°-120°	10.1	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°	5601.1	25.7
0°-40°	9186.8	42.2
0°-60°	16348.9	75.1
0°-90°	21441.3	98.5
90°-120°	327.7	1.5
90°-150°	327.7	1.5
90°-180°	328.0	1.5
0°-180°	21769.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7200	7200	7200	7200	7200	
5°	7185	7171	7139	7173	7173	682
15°	6911	6923	6904	6944	6942	1951
25°	6404	6409	6416	6470	6480	2951
35°	5669	5694	5718	5776	5800	3548
45°	4769	4812	4851	4898	4922	3675
55°	3722	3766	3836	3892	3917	3325
65°	2558	2602	2692	2799	2843	2531
75°	1295	1375	1575	1764	1830	1380
85°	224	414	711	940	1024	283
90°	2	154	419	630	706	9
95°	2	41	217	394	455	1
105°	3	5	36	105	141	4
115°	5	5	7	19	27	3
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°	7199.9	7199.9	7199.9	7199.9	7199.9
2.5°	7208.4	7198.2	7165.9	7198.2	7196.5
5°	7184.6	7171.0	7138.8	7172.7	7172.7
7.5°	7137.1	7132.0	7103.1	7142.2	7142.2
10°	7081.1	7079.4	7055.6	7098.0	7099.7
12.5°	7003.0	7009.8	6987.7	7028.4	7033.5
15°	6911.3	6923.2	6904.5	6943.6	6941.9
17.5°	6811.2	6818.0	6804.4	6848.5	6846.8
20°	6687.3	6695.8	6685.6	6731.4	6736.5
22.5°	6549.8	6561.7	6560.0	6607.5	6621.1
25°	6403.8	6408.9	6415.7	6470.0	6480.2
27.5°	6242.6	6251.1	6263.0	6312.2	6322.4
30°	6066.1	6079.7	6093.2	6144.2	6157.7
32.5°	5879.4	5893.0	5909.9	5976.1	5982.9
35°	5668.9	5694.4	5718.1	5775.9	5799.6
37.5°	5458.5	5490.7	5512.8	5573.9	5592.5
40°	5236.1	5268.4	5304.0	5368.5	5380.4
42.5°	5003.6	5040.9	5083.4	5141.1	5161.4
45°	4769.4	4811.8	4850.8	4898.4	4922.1
47.5°	4516.5	4558.9	4606.4	4660.7	4676.0
50°	4255.1	4304.3	4355.2	4406.1	4433.3
52.5°	3986.9	4046.3	4104.0	4158.3	4183.8
55°	3722.1	3766.3	3835.9	3891.9	3917.3
57.5°	3447.2	3484.5	3547.3	3639.0	3652.6
60°	3167.1	3201.1	3265.6	3340.3	3370.8
62.5°	2858.2	2904.0	2971.9	3067.0	3094.1
65°	2557.8	2601.9	2691.9	2798.8	2842.9
67.5°	2267.6	2282.8	2398.3	2510.3	2581.6
70°	1924.7	1982.4	2116.5	2254.0	2308.3
72.5°	1629.4	1687.1	1834.8	1996.0	2063.9
75°	1295.0	1374.8	1575.1	1763.5	1829.7
77.5°	1001.4	1089.7	1337.5	1527.6	1603.9
80°	699.3	836.8	1106.6	1320.5	1403.7
82.5°	439.6	609.3	897.9	1121.9	1194.9
85°	224.0	414.1	711.2	940.3	1023.5
87.5°	59.4	268.2	553.3	772.3	857.1
90°	1.7	154.5	419.2	629.7	706.1
92.5°	1.7	86.6	312.3	500.7	578.8
95°	1.7	40.7	217.3	393.8	454.9
97.5°	1.7	17.0	149.4	297.0	358.1
100°	1.7	8.5	95.0	215.6	268.2
102.5°	3.4	5.1	59.4	154.5	196.9
105°	3.4	5.1	35.6	105.2	140.9
107.5°	3.4	5.1	20.4	71.3	96.7
110°	5.1	5.1	11.9	44.1	64.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.1	5.1	6.8	28.9	42.4
115°	5.1	5.1	6.8	18.7	27.2
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)