

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: P518274

Luminaire Tested: HVL8-8-LD4-3LO-35-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: P518274
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3LO-35-UNV-O-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12948.0 lumens
Efficiency: N/A
Efficacy: 96.1 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

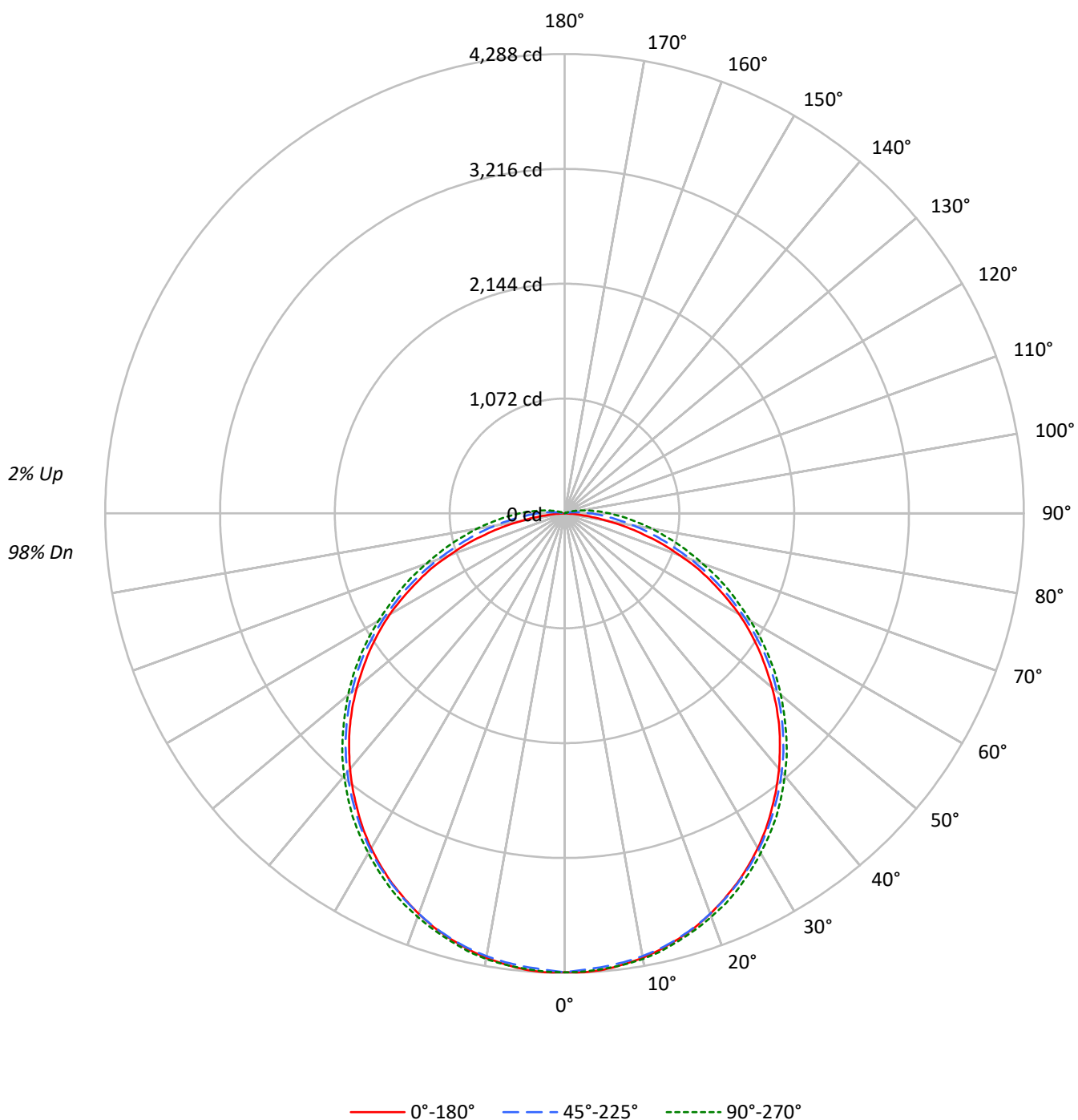
Input Watts (W): 134.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	8643	8643	8643
5°	8642	8461	8458
10°	8600	8319	8289
15°	8542	8162	8086
20°	8478	7984	7888
25°	8400	7801	7687
30°	8309	7605	7459
35°	8188	7389	7233
40°	8064	7161	6969
45°	7932	6911	6685
50°	7754	6622	6379
55°	7565	6304	6041
60°	7339	5887	5647
65°	6955	5420	5257
70°	6390	4867	4803
75°	5573	4260	4390
80°	4323	3667	4013
85°	2493	3071	3653

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 7932 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	405.2	3.1
10°-20°	1162.4	9.0
20°-30°	1763.8	13.6
30°-40°	2132.7	16.5
40°-50°	2225.3	17.2
50°-60°	2034.6	15.7
60°-70°	1586.1	12.2
70°-80°	992.2	7.7
80°-90°	450.6	3.5
90°-100°	151.0	1.2
100°-110°	37.9	0.3
110°-120°	6.0	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°	3331.5	25.7
0°-40°	5464.2	42.2
0°-60°	9724.2	75.1
0°-90°	12753.1	98.5
90°-120°	194.9	1.5
90°-150°	194.9	1.5
90°-180°	195.0	1.5
0°-180°	12948.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4282	4282	4282	4282	4282	
5°	4273	4265	4246	4266	4266	406
15°	4111	4118	4107	4130	4129	1160
25°	3809	3812	3816	3848	3854	1755
35°	3372	3387	3401	3435	3450	2110
45°	2837	2862	2885	2914	2928	2186
55°	2214	2240	2282	2315	2330	1978
65°	1521	1548	1601	1665	1691	1505
75°	770	818	937	1049	1088	821
85°	133	246	423	559	609	169
90°	1	92	249	374	420	5
95°	1	24	129	234	271	1
105°	2	3	21	63	84	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

TEST NUMBER: P518274

CATALOG NUMBER: HVL8-8-LD4-3LO-35-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4282.4	4282.4	4282.4	4282.4	4282.4
2.5°	4287.5	4281.4	4262.2	4281.4	4280.4
5°	4273.3	4265.3	4246.1	4266.3	4266.3
7.5°	4245.1	4242.0	4224.9	4248.1	4248.1
10°	4211.7	4210.7	4196.6	4221.8	4222.9
12.5°	4165.3	4169.3	4156.2	4180.5	4183.5
15°	4110.8	4117.9	4106.8	4130.0	4129.0
17.5°	4051.2	4055.3	4047.2	4073.4	4072.4
20°	3977.5	3982.6	3976.5	4003.8	4006.8
22.5°	3895.8	3902.8	3901.8	3930.1	3938.2
25°	3808.9	3812.0	3816.0	3848.3	3854.4
27.5°	3713.0	3718.1	3725.2	3754.4	3760.5
30°	3608.1	3616.1	3624.2	3654.5	3662.6
32.5°	3497.0	3505.1	3515.2	3554.5	3558.6
35°	3371.8	3387.0	3401.1	3435.4	3449.6
37.5°	3246.6	3265.8	3278.9	3315.3	3326.4
40°	3114.4	3133.6	3154.8	3193.1	3200.2
42.5°	2976.1	2998.3	3023.5	3057.9	3070.0
45°	2836.8	2862.0	2885.2	2913.5	2927.6
47.5°	2686.4	2711.6	2739.9	2772.2	2781.2
50°	2530.9	2560.2	2590.4	2620.7	2636.9
52.5°	2371.4	2406.7	2441.0	2473.3	2488.5
55°	2213.9	2240.1	2281.5	2314.8	2330.0
57.5°	2050.4	2072.6	2109.9	2164.4	2172.5
60°	1883.8	1904.0	1942.3	1986.8	2004.9
62.5°	1700.0	1727.3	1767.7	1824.2	1840.4
65°	1521.4	1547.6	1601.1	1664.7	1691.0
67.5°	1348.7	1357.8	1426.5	1493.1	1535.5
70°	1144.8	1179.1	1258.9	1340.7	1373.0
72.5°	969.1	1003.5	1091.3	1187.2	1227.6
75°	770.3	817.7	936.8	1048.9	1088.3
77.5°	595.6	648.1	795.5	908.6	954.0
80°	415.9	497.7	658.2	785.4	834.9
82.5°	261.5	362.4	534.0	667.3	710.7
85°	133.3	246.3	423.0	559.3	608.7
87.5°	35.3	159.5	329.1	459.3	509.8
90°	1.0	91.9	249.4	374.5	420.0
92.5°	1.0	51.5	185.8	297.8	344.2
95°	1.0	24.2	129.2	234.2	270.6
97.5°	1.0	10.1	88.8	176.7	213.0
100°	1.0	5.0	56.5	128.2	159.5
102.5°	2.0	3.0	35.3	91.9	117.1
105°	2.0	3.0	21.2	62.6	83.8
107.5°	2.0	3.0	12.1	42.4	57.5
110°	3.0	3.0	7.1	26.2	38.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.0	3.0	4.0	17.2	25.2
115°	3.0	3.0	4.0	11.1	16.2
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)