

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: P518285

Luminaire Tested: HVL8-8-LD4-3STD-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: P518285
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3STD-30-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18992.0 lumens
Efficiency: N/A
Efficacy: 99.4 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

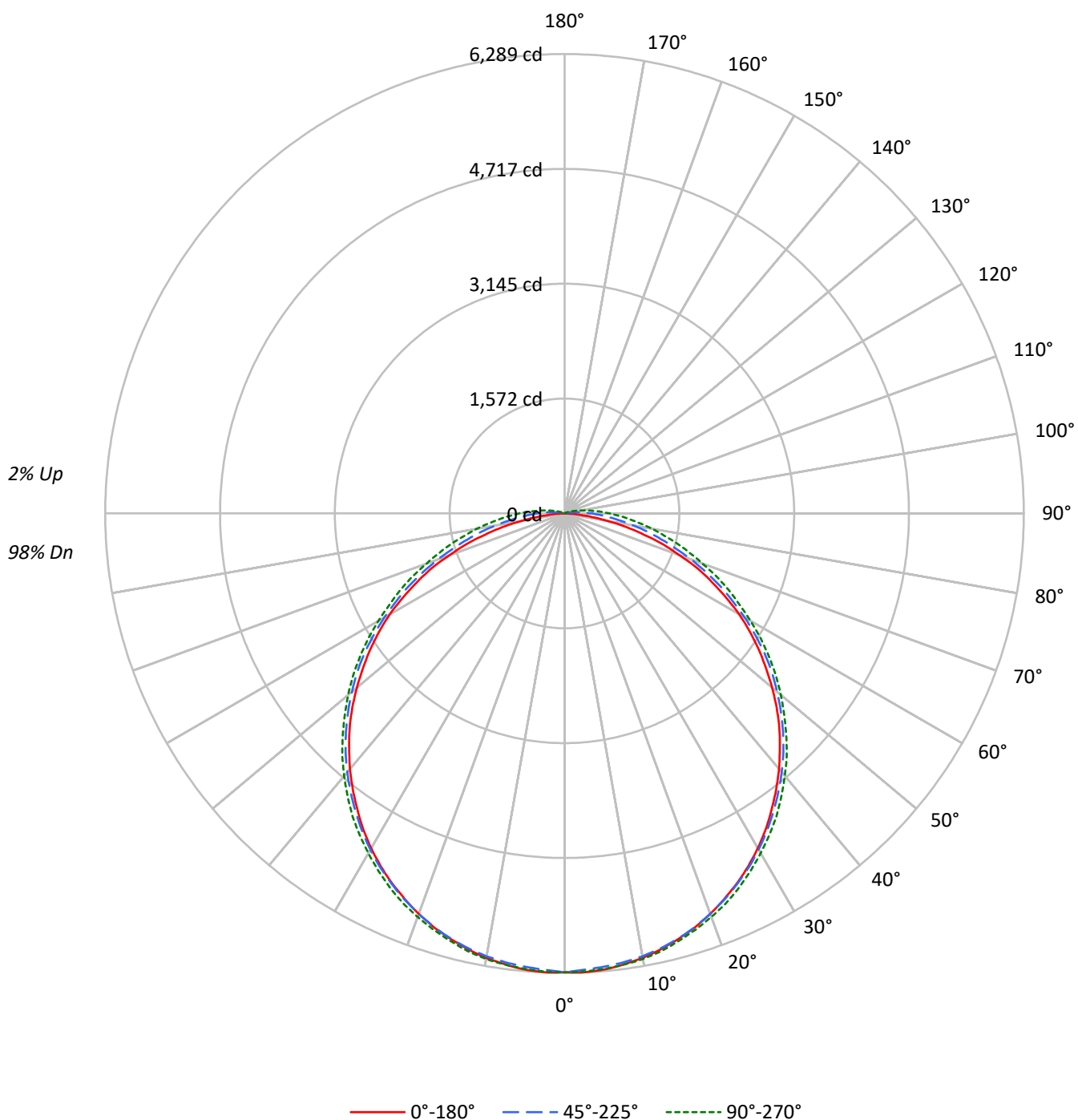
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	12677	12677	12677
5°	12676	12410	12406
10°	12614	12203	12158
15°	12529	11972	11860
20°	12436	11711	11570
25°	12322	11442	11275
30°	12187	11155	10940
35°	12010	10838	10609
40°	11829	10503	10222
45°	11634	10137	9805
50°	11373	9713	9356
55°	11096	9246	8861
60°	10765	8635	8283
65°	10201	7950	7710
70°	9372	7139	7044
75°	8174	6249	6439
80°	6342	5379	5886
85°	3656	4504	5359

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 11634 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	594.4	3.1
10°-20°	1705.0	9.0
20°-30°	2587.1	13.6
30°-40°	3128.3	16.5
40°-50°	3264.1	17.2
50°-60°	2984.4	15.7
60°-70°	2326.5	12.2
70°-80°	1455.3	7.7
80°-90°	661.0	3.5
90°-100°	221.5	1.2
100°-110°	55.6	0.3
110°-120°	8.8	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°	4886.6	25.7
0°-40°	8014.8	42.2
0°-60°	14263.3	75.1
0°-90°	18706.1	98.5
90°-120°	285.9	1.5
90°-150°	285.9	1.5
90°-180°	286.0	1.5
0°-180°	18992.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6281	6281	6281	6281	6281	
5°	6268	6256	6228	6258	6258	595
15°	6030	6040	6024	6058	6056	1702
25°	5587	5591	5597	5645	5654	2574
35°	4946	4968	4989	5039	5060	3096
45°	4161	4198	4232	4274	4294	3206
55°	3247	3286	3346	3395	3418	2901
65°	2232	2270	2348	2442	2480	2208
75°	1130	1199	1374	1538	1596	1204
85°	196	361	620	820	893	247
90°	2	135	366	549	616	8
95°	2	36	190	344	397	1
105°	3	4	31	92	123	3
115°	4	4	6	16	24	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°	6281.4	6281.4	6281.4	6281.4	6281.4
2.5°	6288.8	6279.9	6251.8	6279.9	6278.4
5°	6268.1	6256.2	6228.1	6257.7	6257.7
7.5°	6226.6	6222.2	6197.0	6231.1	6231.1
10°	6177.8	6176.3	6155.5	6192.6	6194.0
12.5°	6109.6	6115.6	6096.3	6131.8	6136.3
15°	6029.7	6040.0	6023.8	6057.8	6056.3
17.5°	5942.3	5948.2	5936.4	5974.9	5973.4
20°	5834.2	5841.6	5832.7	5872.7	5877.2
22.5°	5714.3	5724.6	5723.2	5764.6	5776.5
25°	5586.9	5591.4	5597.3	5644.7	5653.6
27.5°	5446.3	5453.7	5464.0	5507.0	5515.9
30°	5292.3	5304.1	5315.9	5360.4	5372.2
32.5°	5129.4	5141.2	5156.0	5213.8	5219.7
35°	4945.8	4968.0	4988.7	5039.0	5059.8
37.5°	4762.1	4790.3	4809.5	4862.8	4879.1
40°	4568.2	4596.3	4627.4	4683.7	4694.0
42.5°	4365.3	4397.9	4434.9	4485.2	4503.0
45°	4161.0	4198.0	4232.0	4273.5	4294.2
47.5°	3940.3	3977.3	4018.8	4066.2	4079.5
50°	3712.3	3755.2	3799.6	3844.1	3867.8
52.5°	3478.3	3530.1	3580.5	3627.9	3650.1
55°	3247.3	3285.8	3346.5	3395.4	3417.6
57.5°	3007.4	3040.0	3094.8	3174.8	3186.6
60°	2763.1	2792.7	2849.0	2914.1	2940.8
62.5°	2493.6	2533.6	2592.8	2675.7	2699.4
65°	2231.5	2270.0	2348.5	2441.8	2480.3
67.5°	1978.3	1991.6	2092.3	2190.1	2252.2
70°	1679.2	1729.5	1846.5	1966.5	2013.8
72.5°	1421.5	1471.9	1600.7	1741.4	1800.6
75°	1129.8	1199.4	1374.2	1538.5	1596.3
77.5°	873.7	950.7	1166.8	1332.7	1399.3
80°	610.1	730.0	965.5	1152.0	1224.6
82.5°	383.5	531.6	783.3	978.8	1042.5
85°	195.5	361.3	620.4	820.3	892.9
87.5°	51.8	234.0	482.7	673.7	747.8
90°	1.5	134.7	365.7	549.4	616.0
92.5°	1.5	75.5	272.5	436.8	504.9
95°	1.5	35.5	189.5	343.5	396.8
97.5°	1.5	14.8	130.3	259.1	312.4
100°	1.5	7.4	82.9	188.1	234.0
102.5°	3.0	4.4	51.8	134.7	171.8
105°	3.0	4.4	31.1	91.8	122.9
107.5°	3.0	4.4	17.8	62.2	84.4
110°	4.4	4.4	10.4	38.5	56.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.4	4.4	5.9	25.2	37.0
115°	4.4	4.4	5.9	16.3	23.7
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)