

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: P517714

Luminaire Tested: HVL12-8-LD4-3STD-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: P517714
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-3STD-35-UNV-O-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17414.0 lumens
Efficiency: N/A
Efficacy: 88.8 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

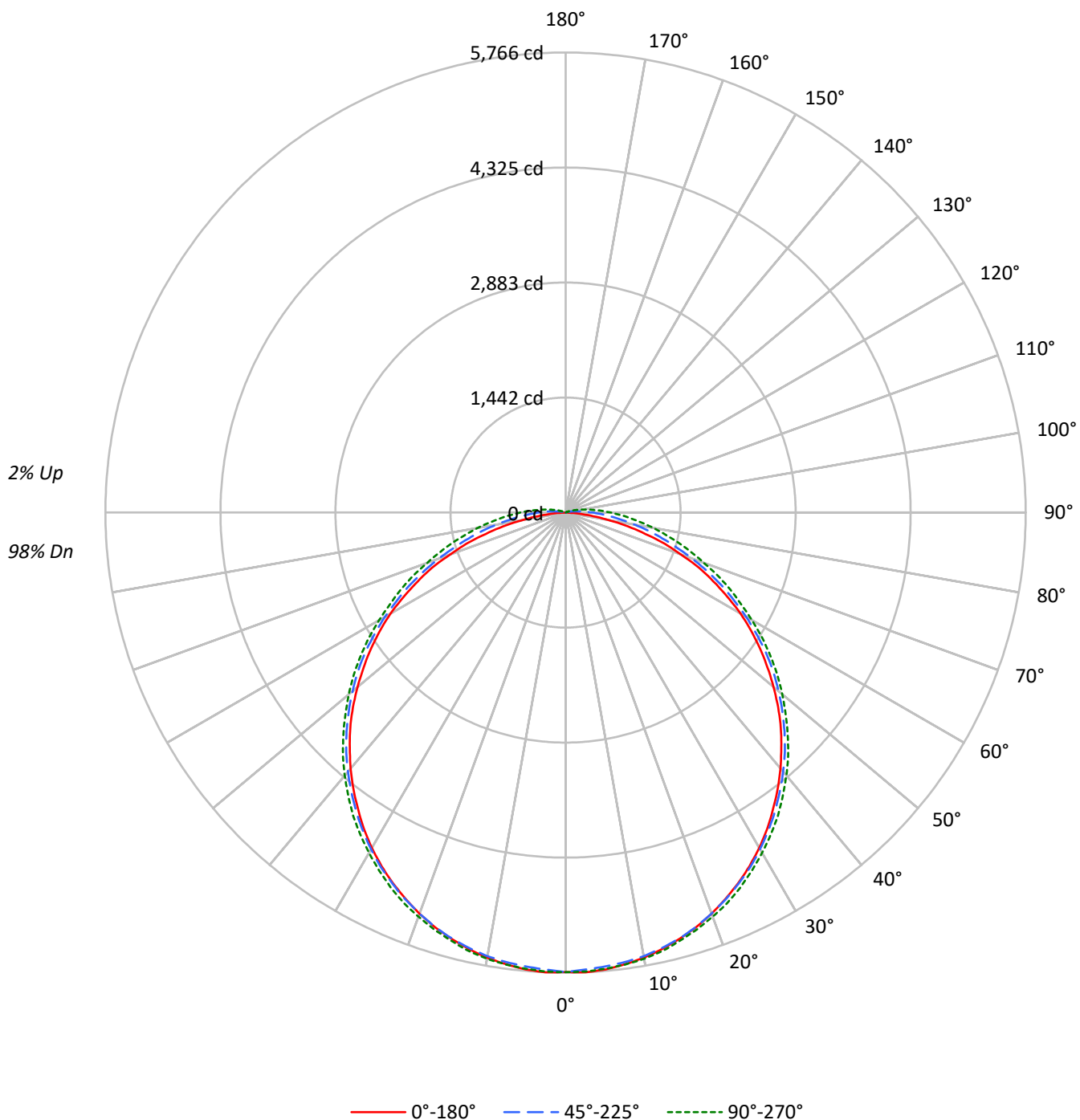
Input Watts (W): 196.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	102	98	94	105	100	96	92	95	92	89		91	88	86		87
2	98	89	82	76	95	87	80	75	83	77	73		79	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	52		62	56	51		60
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		54
6	69	55	46	40	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7749	7749	7749
5°	7748	7624	7638
10°	7711	7535	7538
15°	7658	7430	7404
20°	7602	7305	7275
25°	7532	7175	7141
30°	7449	7034	6981
35°	7341	6875	6824
40°	7230	6706	6632
45°	7111	6519	6422
50°	6952	6297	6193
55°	6783	6052	5937
60°	6580	5717	5631
65°	6236	5338	5334
70°	5729	4882	4982
75°	4997	4382	4691
80°	3876	3915	4472
85°	2234	3491	4350

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 7111 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	545.0	3.1
10°-20°	1563.4	9.0
20°-30°	2372.2	13.6
30°-40°	2868.3	16.5
40°-50°	2992.9	17.2
50°-60°	2736.4	15.7
60°-70°	2133.2	12.2
70°-80°	1334.4	7.7
80°-90°	606.1	3.5
90°-100°	203.1	1.2
100°-110°	51.0	0.3
110°-120°	8.0	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°	4480.6	25.7
0°-40°	7348.9	42.2
0°-60°	13078.2	75.1
0°-90°	17151.9	98.5
90°-120°	262.2	1.5
90°-150°	262.2	1.5
90°-180°	262.0	1.5
0°-180°	17414.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5760	5760	5760	5760	5760	
5°	5747	5736	5711	5738	5738	546
15°	5529	5538	5523	5554	5553	1561
25°	5123	5127	5132	5176	5184	2360
35°	4535	4555	4574	4620	4639	2838
45°	3815	3849	3880	3918	3937	2940
55°	2978	3013	3068	3113	3134	2660
65°	2046	2081	2153	2239	2274	2024
75°	1036	1100	1260	1411	1464	1104
85°	179	331	569	752	819	227
90°	1	124	335	504	565	7
95°	1	33	174	315	364	1
105°	3	4	28	84	113	3
115°	4	4	5	15	22	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°	5759.5	5759.5	5759.5	5759.5	5759.5
2.5°	5766.3	5758.1	5732.3	5758.1	5756.8
5°	5747.3	5736.4	5710.6	5737.8	5737.8
7.5°	5709.3	5705.2	5682.1	5713.3	5713.3
10°	5664.5	5663.1	5644.1	5678.0	5679.4
12.5°	5602.0	5607.4	5589.8	5622.4	5626.4
15°	5528.7	5538.2	5523.3	5554.5	5553.1
17.5°	5448.6	5454.0	5443.1	5478.4	5477.1
20°	5349.5	5356.3	5348.1	5384.8	5388.8
22.5°	5239.5	5249.0	5247.6	5285.7	5296.5
25°	5122.7	5126.8	5132.2	5175.7	5183.8
27.5°	4993.7	5000.5	5010.0	5049.4	5057.6
30°	4852.5	4863.4	4874.3	4915.0	4925.9
32.5°	4703.2	4714.0	4727.6	4780.6	4786.0
35°	4534.8	4555.2	4574.2	4620.4	4639.4
37.5°	4366.5	4392.3	4409.9	4458.8	4473.7
40°	4188.6	4214.4	4242.9	4294.5	4304.0
42.5°	4002.6	4032.5	4066.4	4112.6	4128.9
45°	3815.2	3849.2	3880.4	3918.4	3937.4
47.5°	3612.9	3646.9	3684.9	3728.3	3740.6
50°	3403.8	3443.2	3483.9	3524.7	3546.4
52.5°	3189.3	3236.8	3283.0	3326.4	3346.8
55°	2977.5	3012.8	3068.5	3113.3	3133.6
57.5°	2757.6	2787.4	2837.7	2911.0	2921.8
60°	2533.5	2560.7	2612.3	2672.0	2696.5
62.5°	2286.4	2323.1	2377.4	2453.4	2475.1
65°	2046.1	2081.4	2153.4	2238.9	2274.2
67.5°	1813.9	1826.1	1918.5	2008.1	2065.1
70°	1539.7	1585.8	1693.1	1803.1	1846.5
72.5°	1303.4	1349.6	1467.7	1596.7	1651.0
75°	1035.9	1099.8	1260.0	1410.7	1463.6
77.5°	801.1	871.7	1069.9	1222.0	1283.1
80°	559.4	669.4	885.2	1056.3	1122.8
82.5°	351.7	487.4	718.2	897.5	955.8
85°	179.2	331.3	568.9	752.2	818.7
87.5°	47.5	214.5	442.6	617.8	685.7
90°	1.4	123.6	335.4	503.7	564.8
92.5°	1.4	69.2	249.8	400.5	463.0
95°	1.4	32.6	173.8	315.0	363.9
97.5°	1.4	13.6	119.5	237.6	286.5
100°	1.4	6.8	76.0	172.4	214.5
102.5°	2.7	4.1	47.5	123.6	157.5
105°	2.7	4.1	28.5	84.2	112.7
107.5°	2.7	4.1	16.3	57.0	77.4
110°	4.1	4.1	9.5	35.3	51.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.1	4.1	5.4	23.1	33.9
115°	4.1	4.1	5.4	14.9	21.7
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)