

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: P517674

Luminaire Tested: HVL12-8-LD4-2STD-50-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: P517674
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2STD-50-UNV-O-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11793.0 lumens
Efficiency: N/A
Efficacy: 87.8 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

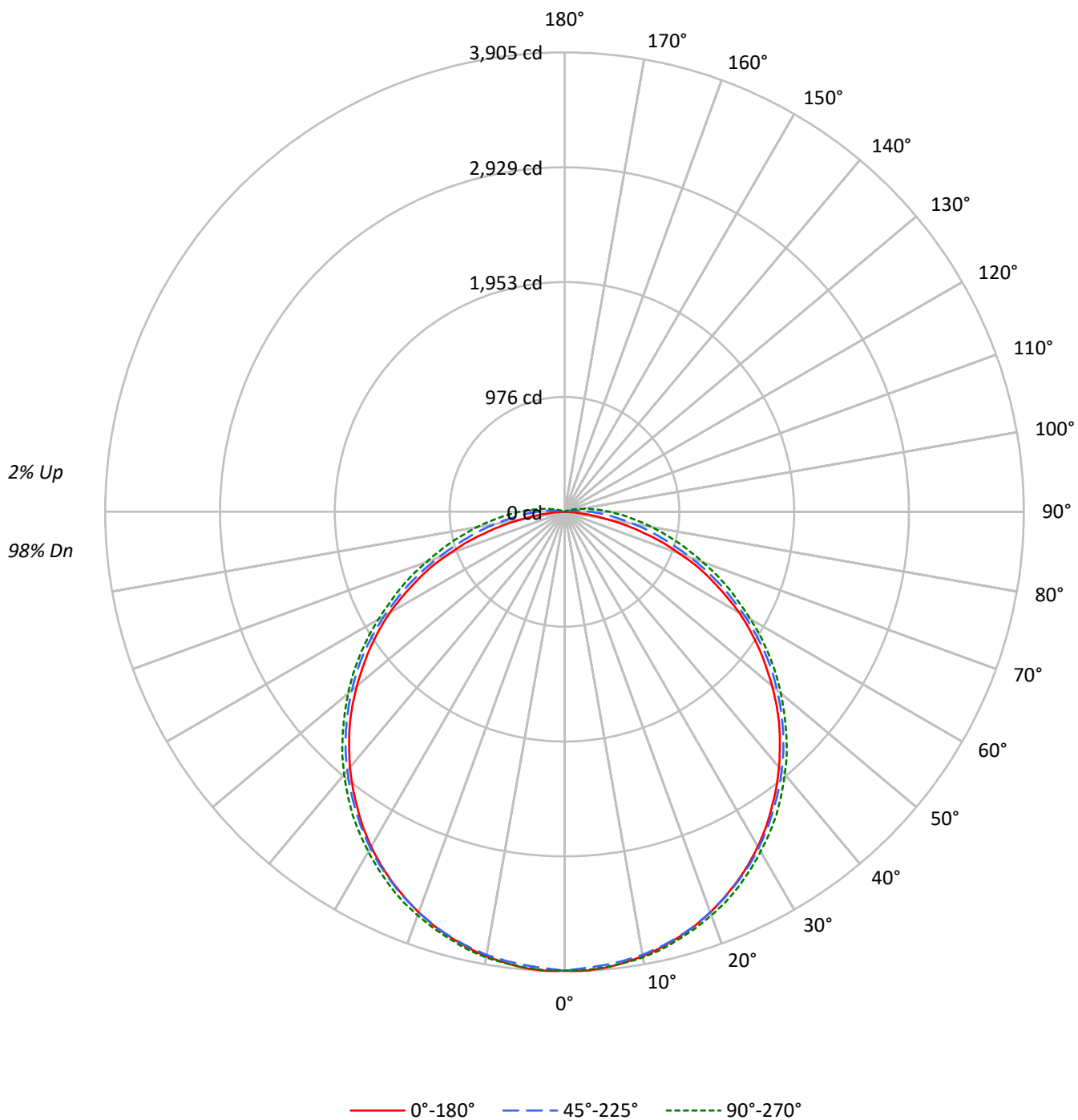
Input Watts (W): 134.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	5248	5248	5248
5°	5247	5163	5173
10°	5222	5103	5105
15°	5186	5031	5014
20°	5148	4947	4926
25°	5101	4859	4836
30°	5045	4764	4728
35°	4972	4656	4621
40°	4897	4542	4491
45°	4816	4415	4349
50°	4708	4265	4194
55°	4593	4098	4021
60°	4456	3871	3813
65°	4223	3615	3612
70°	3880	3306	3374
75°	3384	2967	3177
80°	2625	2651	3029
85°	1514	2364	2946

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4816 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	369.1	3.1
10°-20°	1058.7	9.0
20°-30°	1606.5	13.6
30°-40°	1942.5	16.5
40°-50°	2026.8	17.2
50°-60°	1853.1	15.7
60°-70°	1444.6	12.2
70°-80°	903.7	7.7
80°-90°	410.4	3.5
90°-100°	137.6	1.2
100°-110°	34.5	0.3
110°-120°	5.4	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°	3034.3	25.7
0°-40°	4976.8	42.2
0°-60°	8856.7	75.1
0°-90°	11615.5	98.5
90°-120°	177.5	1.5
90°-150°	177.5	1.5
90°-180°	178.0	1.5
0°-180°	11793.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3900	3900	3900	3900	3900	
5°	3892	3885	3867	3886	3886	370
15°	3744	3750	3740	3762	3761	1057
25°	3469	3472	3476	3505	3511	1599
35°	3071	3085	3098	3129	3142	1922
45°	2584	2607	2628	2654	2666	1991
55°	2016	2040	2078	2108	2122	1801
65°	1386	1410	1458	1516	1540	1371
75°	702	745	853	955	991	748
85°	121	224	385	509	554	154
90°	1	84	227	341	382	5
95°	1	22	118	213	246	1
105°	2	3	19	57	76	2
115°	3	3	4	10	15	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°	3900.4	3900.4	3900.4	3900.4	3900.4
2.5°	3905.0	3899.5	3882.0	3899.5	3898.6
5°	3892.1	3884.8	3867.3	3885.7	3885.7
7.5°	3866.4	3863.6	3848.0	3869.1	3869.1
10°	3836.0	3835.1	3822.3	3845.2	3846.2
12.5°	3793.8	3797.4	3785.5	3807.5	3810.3
15°	3744.1	3750.5	3740.4	3761.6	3760.7
17.5°	3689.9	3693.5	3686.2	3710.1	3709.2
20°	3622.7	3627.3	3621.8	3646.6	3649.4
22.5°	3548.3	3554.7	3553.8	3579.5	3586.9
25°	3469.2	3471.9	3475.6	3505.0	3510.6
27.5°	3381.8	3386.4	3392.9	3419.5	3425.0
30°	3286.2	3293.6	3300.9	3328.5	3335.9
32.5°	3185.1	3192.4	3201.6	3237.5	3241.1
35°	3071.0	3084.8	3097.7	3129.0	3141.8
37.5°	2957.0	2974.5	2986.5	3019.6	3029.7
40°	2836.6	2854.0	2873.4	2908.3	2914.7
42.5°	2710.6	2730.8	2753.8	2785.1	2796.1
45°	2583.7	2606.7	2627.9	2653.6	2666.5
47.5°	2446.7	2469.7	2495.5	2524.9	2533.2
50°	2305.1	2331.8	2359.4	2387.0	2401.7
52.5°	2159.8	2192.0	2223.3	2252.7	2266.5
55°	2016.4	2040.3	2078.0	2108.4	2122.1
57.5°	1867.5	1887.7	1921.7	1971.4	1978.7
60°	1715.7	1734.1	1769.1	1809.5	1826.1
62.5°	1548.4	1573.2	1610.0	1661.5	1676.2
65°	1385.6	1409.6	1458.3	1516.2	1540.1
67.5°	1228.4	1236.7	1299.2	1359.9	1398.5
70°	1042.7	1073.9	1146.6	1221.1	1250.5
72.5°	882.7	914.0	994.0	1081.3	1118.1
75°	701.6	744.8	853.3	955.3	991.2
77.5°	542.5	590.3	724.5	827.5	868.9
80°	378.8	453.3	599.5	715.4	760.4
82.5°	238.1	330.1	486.4	607.8	647.3
85°	121.4	224.4	385.3	509.4	554.4
87.5°	32.2	145.3	299.7	418.4	464.3
90°	0.9	83.7	227.1	341.1	382.5
92.5°	0.9	46.9	169.2	271.2	313.5
95°	0.9	22.1	117.7	213.3	246.4
97.5°	0.9	9.2	80.9	160.9	194.0
100°	0.9	4.6	51.5	116.8	145.3
102.5°	1.8	2.8	32.2	83.7	106.7
105°	1.8	2.8	19.3	57.0	76.3
107.5°	1.8	2.8	11.0	38.6	52.4
110°	2.8	2.8	6.4	23.9	34.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.8	2.8	3.7	15.6	23.0
115°	2.8	2.8	3.7	10.1	14.7
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)