

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: P517664

Luminaire Tested: HVL12-8-LD4-2STD-35-UNV-C-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: P517664
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2STD-35-UNV-C-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: 12194.9 lumens
Efficiency: N/A
Efficacy: 90.8 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

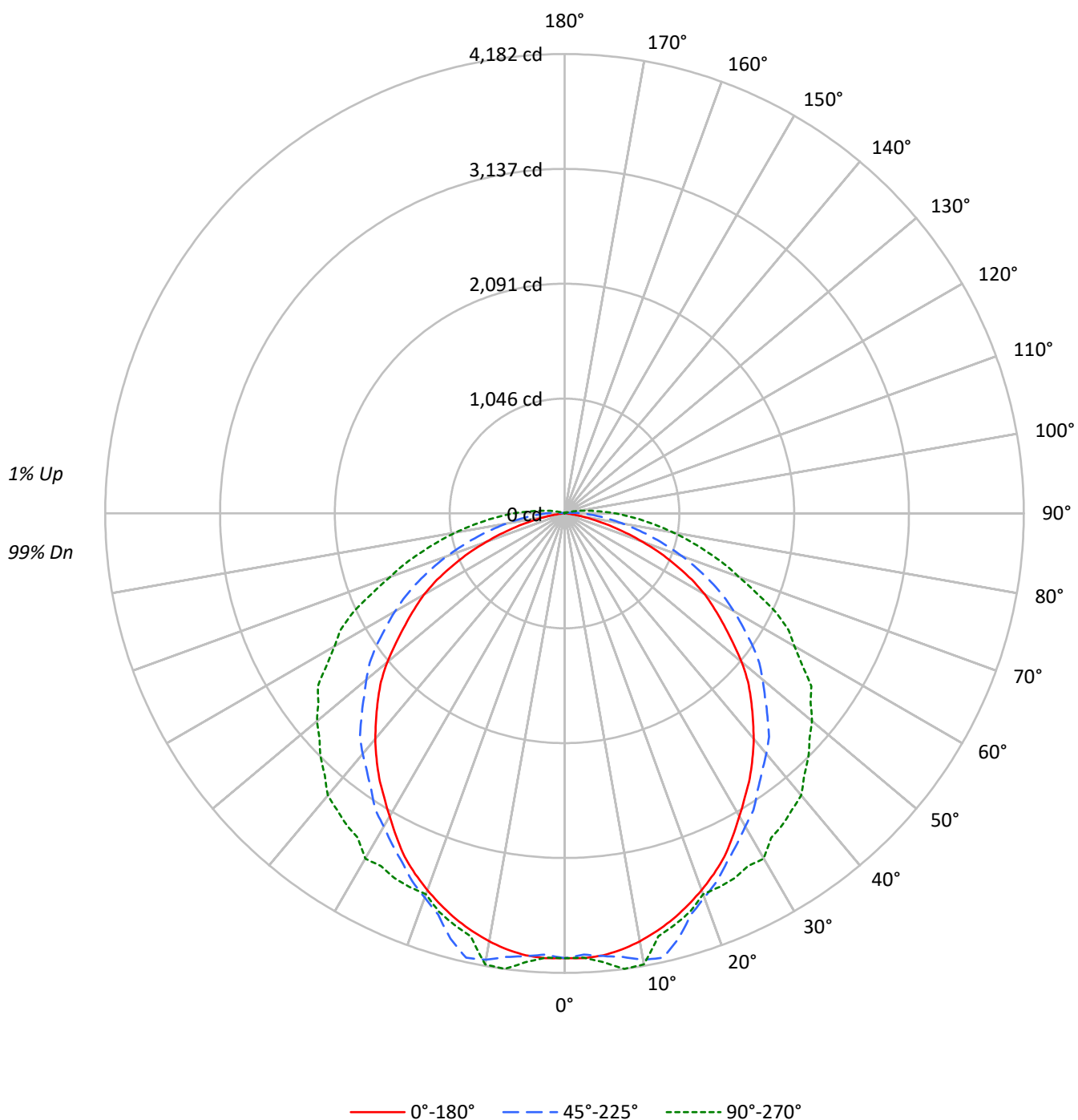
Input Watts (W): 134.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	103	98	94	105	100	96	92	96	92	89		91	89	86		87
2	98	89	82	76	95	87	80	75	83	78	73		80	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	51		62	56	51		60
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		54
6	69	55	46	39	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°	5447	5447	5447
5°	5444	5399	5459
10°	5382	5507	5531
15°	5294	5391	5170
20°	5185	5082	4979
25°	5069	4894	5047
30°	4888	4748	5141
35°	4762	4612	5090
40°	4626	4519	5166
45°	4481	4390	5121
50°	4302	4256	5137
55°	4033	4111	5197
60°	3834	3900	5047
65°	3415	3641	4972
70°	2817	3289	4559
75°	2045	2848	4286
80°	1183	2407	4014
85°	473	1958	3777

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 5197 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	389.1	3.2
10°-20°	1108.0	9.1
20°-30°	1648.5	13.5
30°-40°	1981.5	16.2
40°-50°	2085.7	17.1
50°-60°	1935.3	15.9
60°-70°	1530.2	12.5
70°-80°	934.7	7.7
80°-90°	407.2	3.3
90°-100°	126.8	1.0
100°-110°	28.5	0.2
110°-120°	11.4	0.1
120°-130°	6.4	0.1
130°-140°	1.7	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°	3145.6	25.8
0°-40°	5127.1	42.0
0°-60°	9148.0	75.0
0°-90°	12020.1	98.6
90°-120°	166.7	1.4
90°-150°	174.8	1.4
90°-180°	175.0	1.4
0°-180°	12194.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4048	4048	4048	4048	4048	
5°	4038	4030	4044	4089	4101	383
15°	3822	3969	4008	3875	3877	1077
25°	3448	3668	3500	3605	3664	1583
35°	2941	3023	3068	3347	3461	1838
45°	2404	2414	2613	3027	3140	1853
55°	1770	1799	2085	2541	2743	1591
65°	1121	1156	1469	1944	2120	1110
75°	424	562	819	1258	1338	463
85°	38	132	319	619	711	59
90°	1	40	167	392	463	2
95°	1	10	73	215	263	1
105°	1	6	15	42	59	1
115°	1	3	12	19	20	1
125°	1	2	5	12	17	1
135°	2	2	2	4	6	1
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: P517664

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4048.1	4048.1	4048.1	4048.1	4048.1
2.5°	4053.0	4042.3	4020.0	4041.5	4047.3
5°	4038.2	4029.9	4044.0	4089.3	4100.9
7.5°	4004.4	4035.7	4072.8	4155.3	4181.7
10°	3954.1	4013.4	4124.8	4194.9	4167.6
12.5°	3893.0	3993.7	4142.9	4006.0	3942.5
15°	3822.1	3968.9	4007.7	3874.9	3877.4
17.5°	3738.8	3948.3	3828.7	3825.4	3801.5
20°	3649.0	3879.0	3720.7	3714.1	3688.5
22.5°	3552.5	3787.5	3625.0	3611.9	3681.1
25°	3447.8	3667.9	3500.5	3605.3	3663.8
27.5°	3316.6	3511.2	3396.6	3545.1	3618.4
30°	3183.9	3349.6	3290.2	3497.2	3627.5
32.5°	3059.4	3180.6	3202.8	3479.1	3500.5
35°	2941.4	3023.1	3068.4	3347.1	3460.9
37.5°	2812.0	2834.2	2954.6	3291.9	3401.6
40°	2680.0	2666.0	2859.0	3201.2	3352.9
42.5°	2538.2	2533.2	2757.5	3155.8	3231.7
45°	2403.8	2414.5	2613.2	3027.2	3140.2
47.5°	2266.1	2280.1	2476.3	2886.2	3026.4
50°	2106.1	2124.2	2354.3	2760.8	2941.4
52.5°	1932.9	1967.6	2235.6	2642.1	2824.3
55°	1770.5	1799.3	2084.6	2540.7	2742.7
57.5°	1622.0	1639.4	1928.8	2412.8	2565.4
60°	1476.1	1480.2	1782.0	2271.0	2417.0
62.5°	1308.7	1316.1	1631.1	2103.6	2299.1
65°	1120.7	1156.1	1468.7	1943.6	2120.1
67.5°	945.0	1006.9	1302.9	1796.9	1889.2
70°	757.0	861.7	1140.5	1624.5	1689.7
72.5°	584.7	707.5	973.9	1431.5	1523.1
75°	423.9	561.6	818.9	1258.4	1337.5
77.5°	285.3	425.5	673.7	1067.1	1171.8
80°	170.7	310.9	544.3	889.8	1007.7
82.5°	87.4	208.6	422.2	746.3	851.8
85°	37.9	131.9	319.1	619.3	710.8
87.5°	10.7	75.0	235.0	500.5	578.1
90°	0.8	39.6	167.4	392.5	462.6
92.5°	0.8	19.0	117.9	296.9	350.5
95°	0.8	9.9	73.4	215.2	263.1
97.5°	0.8	5.8	44.5	152.6	193.0
100°	0.8	4.9	26.4	101.4	137.7
102.5°	0.8	5.8	18.1	64.3	89.9
105°	0.8	5.8	14.8	42.1	59.4
107.5°	1.6	5.8	13.2	31.3	41.2
110°	0.8	4.9	14.0	23.9	32.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	4.1	13.2	19.8	23.9
115°	0.8	3.3	11.5	19.0	19.8
117.5°	1.6	2.5	9.1	19.0	19.8
120°	1.6	1.6	7.4	18.1	20.6
122.5°	1.6	1.6	5.8	16.5	19.8
125°	0.8	1.6	4.9	12.4	17.3
127.5°	1.6	1.6	4.1	9.9	13.2
130°	1.6	1.6	3.3	7.4	9.9
132.5°	1.6	1.6	2.5	5.8	7.4
135°	1.6	1.6	1.6	4.1	5.8
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)