

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: P517659

Luminaire Tested: HVL12-8-LD4-2STD-30-UNV-C-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: P517659
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2STD-30-UNV-C-EDD-90
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13886.0 lumens
Efficiency: N/A
Efficacy: 103.4 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

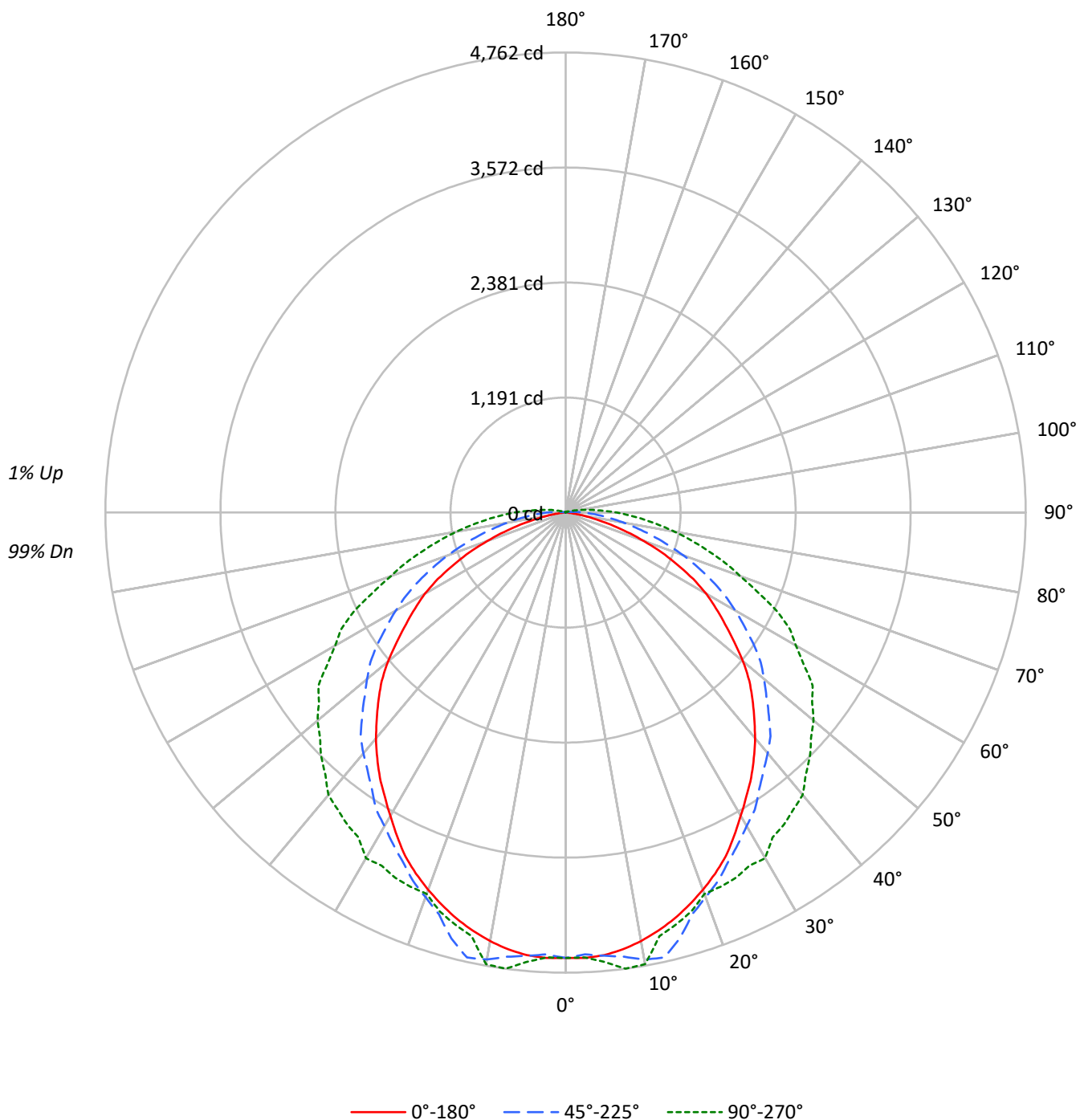
Input Watts (W): 134.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101			99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	78	73	80	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	51	62	56	51	60	54	50			47
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	39	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°	6202	6202	6202
5°	6199	6148	6216
10°	6129	6270	6298
15°	6029	6138	5887
20°	5904	5787	5670
25°	5772	5573	5747
30°	5566	5407	5854
35°	5422	5251	5796
40°	5268	5145	5883
45°	5102	4999	5832
50°	4898	4846	5849
55°	4592	4682	5917
60°	4365	4440	5747
65°	3889	4145	5662
70°	3207	3744	5191
75°	2328	3242	4881
80°	1347	2741	4570
85°	539	2230	4301

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 5917 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	443.0	3.2
10°-20°	1261.6	9.1
20°-30°	1877.1	13.5
30°-40°	2256.3	16.2
40°-50°	2374.9	17.1
50°-60°	2203.6	15.9
60°-70°	1742.3	12.5
70°-80°	1064.3	7.7
80°-90°	463.7	3.3
90°-100°	144.4	1.0
100°-110°	32.4	0.2
110°-120°	13.0	0.1
120°-130°	7.3	0.1
130°-140°	2.0	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°	3581.7	25.8
0°-40°	5838.0	42.0
0°-60°	10416.5	75.0
0°-90°	13686.9	98.6
90°-120°	189.8	1.4
90°-150°	199.1	1.4
90°-180°	199.0	1.4
0°-180°	13886.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4609	4609	4609	4609	4609	
5°	4598	4589	4605	4656	4670	436
15°	4352	4519	4563	4412	4415	1226
25°	3926	4176	3986	4105	4172	1802
35°	3349	3442	3494	3811	3941	2093
45°	2737	2749	2976	3447	3576	2110
55°	2016	2049	2374	2893	3123	1811
65°	1276	1316	1672	2213	2414	1264
75°	483	639	932	1433	1523	527
85°	43	150	363	705	809	67
90°	1	45	191	447	527	2
95°	1	11	84	245	300	1
105°	1	7	17	48	68	1
115°	1	4	13	22	22	2
125°	1	2	6	14	20	1
135°	2	2	2	5	7	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4609.4	4609.4	4609.4	4609.4	4609.4
2.5°	4615.0	4602.8	4577.5	4601.9	4608.5
5°	4598.1	4588.7	4604.7	4656.3	4669.5
7.5°	4559.6	4595.3	4637.6	4731.5	4761.5
10°	4502.4	4570.0	4696.7	4776.5	4745.5
12.5°	4432.9	4547.4	4717.4	4561.5	4489.2
15°	4352.1	4519.3	4563.4	4412.2	4415.0
17.5°	4257.3	4495.8	4359.6	4355.9	4328.6
20°	4154.9	4416.9	4236.6	4229.1	4200.0
22.5°	4045.1	4312.7	4127.7	4112.7	4191.6
25°	3925.8	4176.5	3985.9	4105.2	4171.8
27.5°	3776.5	3998.1	3867.6	4036.6	4120.2
30°	3625.4	3814.1	3746.5	3982.2	4130.5
32.5°	3483.6	3621.6	3647.0	3961.5	3985.9
35°	3349.3	3442.3	3493.9	3811.3	3940.9
37.5°	3201.9	3227.2	3364.3	3748.4	3873.2
40°	3051.6	3035.7	3255.4	3645.1	3817.8
42.5°	2890.1	2884.5	3139.9	3593.4	3679.8
45°	2737.1	2749.3	2975.6	3447.0	3575.6
47.5°	2580.3	2596.2	2819.7	3286.4	3446.0
50°	2398.1	2418.8	2680.8	3143.7	3349.3
52.5°	2200.9	2240.4	2545.5	3008.5	3216.0
55°	2016.0	2048.8	2373.7	2893.0	3123.0
57.5°	1847.0	1866.7	2196.2	2747.4	2921.1
60°	1680.8	1685.4	2029.1	2585.9	2752.1
62.5°	1490.1	1498.6	1857.3	2395.3	2617.8
65°	1276.1	1316.4	1672.3	2213.1	2414.1
67.5°	1076.1	1146.5	1483.6	2046.0	2151.2
70°	862.0	981.2	1298.6	1849.8	1923.9
72.5°	665.7	805.6	1108.9	1630.0	1734.3
75°	482.6	639.4	932.4	1432.9	1523.0
77.5°	324.9	484.5	767.1	1215.0	1334.3
80°	194.4	354.0	619.7	1013.1	1147.4
82.5°	99.5	237.6	480.8	849.8	970.0
85°	43.2	150.2	363.4	705.2	809.4
87.5°	12.2	85.4	267.6	570.0	658.2
90°	0.9	45.1	190.6	446.9	526.8
92.5°	0.9	21.6	134.3	338.0	399.1
95°	0.9	11.3	83.6	245.1	299.5
97.5°	0.9	6.6	50.7	173.7	219.7
100°	0.9	5.6	30.0	115.5	156.8
102.5°	0.9	6.6	20.7	73.2	102.3
105°	0.9	6.6	16.9	47.9	67.6
107.5°	1.9	6.6	15.0	35.7	46.9
110°	0.9	5.6	16.0	27.2	36.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.9	4.7	15.0	22.5	27.2
115°	0.9	3.8	13.1	21.6	22.5
117.5°	1.9	2.8	10.3	21.6	22.5
120°	1.9	1.9	8.5	20.7	23.5
122.5°	1.9	1.9	6.6	18.8	22.5
125°	0.9	1.9	5.6	14.1	19.7
127.5°	1.9	1.9	4.7	11.3	15.0
130°	1.9	1.9	3.8	8.5	11.3
132.5°	1.9	1.9	2.8	6.6	8.5
135°	1.9	1.9	1.9	4.7	6.6
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)