

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: P517636

Luminaire Tested: HVL12-8-LD4-2HI-40-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: P517636
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2HI-40-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15917.0 lumens
Efficiency: N/A
Efficacy: 90.0 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

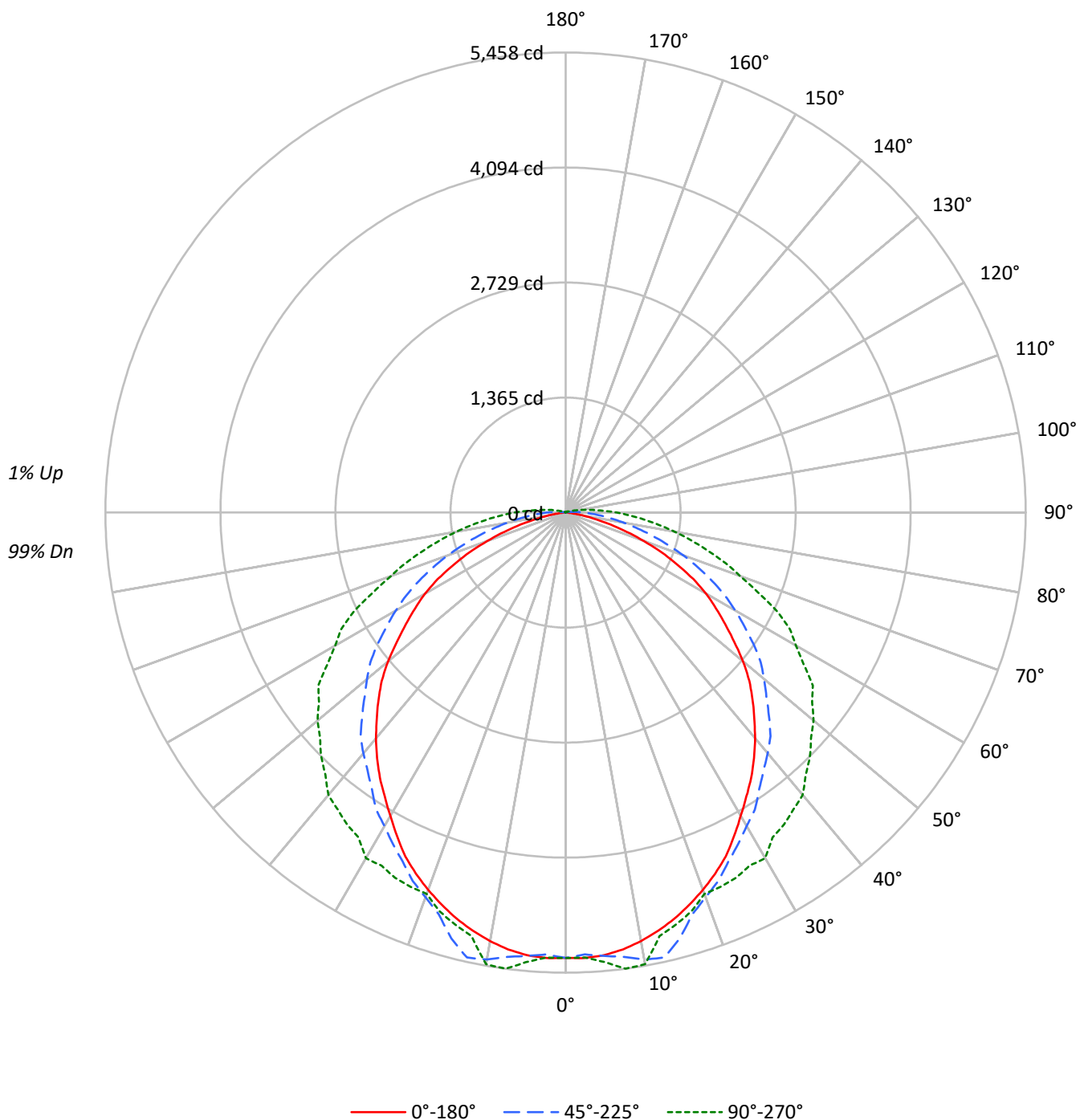
Input Watts (W): 176.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	7109	7109	7109
5°	7106	7047	7125
10°	7025	7187	7220
15°	6910	7036	6748
20°	6768	6633	6499
25°	6616	6388	6587
30°	6380	6198	6710
35°	6215	6019	6644
40°	6038	5898	6743
45°	5848	5730	6685
50°	5615	5554	6704
55°	5264	5366	6783
60°	5004	5090	6587
65°	4458	4752	6490
70°	3676	4292	5950
75°	2668	3717	5595
80°	1544	3142	5238
85°	617	2556	4930

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 6783 cd/sqm

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CATALOG NUMBER: HVL12-8-LD4-2HI-40-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	507.8	3.2
10°-20°	1446.1	9.1
20°-30°	2151.7	13.5
30°-40°	2586.3	16.2
40°-50°	2722.2	17.1
50°-60°	2525.9	15.9
60°-70°	1997.2	12.5
70°-80°	1219.9	7.7
80°-90°	531.5	3.3
90°-100°	165.5	1.0
100°-110°	37.2	0.2
110°-120°	15.0	0.1
120°-130°	8.4	0.1
130°-140°	2.3	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°	4105.6	25.8
0°-40°	6691.9	42.0
0°-60°	11940.1	75.0
0°-90°	15688.7	98.6
90°-120°	217.6	1.4
90°-150°	228.3	1.4
90°-180°	228.0	1.4
0°-180°	15917.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5284	5284	5284	5284	5284	
5°	5271	5260	5278	5337	5352	500
15°	4989	5180	5231	5058	5061	1405
25°	4500	4787	4569	4706	4782	2066
35°	3839	3946	4005	4369	4517	2399
45°	3137	3151	3411	3951	4099	2418
55°	2311	2348	2721	3316	3580	2076
65°	1463	1509	1917	2537	2767	1449
75°	553	733	1069	1642	1746	604
85°	50	172	416	808	928	77
90°	1	52	218	512	604	2
95°	1	13	96	281	343	1
105°	1	8	19	55	78	1
115°	1	4	15	25	26	2
125°	1	2	6	16	23	2
135°	2	2	2	5	8	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°	5283.6	5283.6	5283.6	5283.6	5283.6
2.5°	5290.0	5276.0	5247.0	5275.0	5282.5
5°	5270.7	5259.9	5278.2	5337.4	5352.5
7.5°	5226.5	5267.4	5315.9	5423.5	5457.9
10°	5160.9	5238.4	5383.7	5475.2	5439.6
12.5°	5081.2	5212.5	5407.4	5228.7	5145.8
15°	4988.7	5180.3	5230.8	5057.6	5060.8
17.5°	4880.0	5153.3	4997.3	4993.0	4961.8
20°	4762.6	5062.9	4856.3	4847.7	4814.3
22.5°	4636.7	4943.5	4731.4	4714.2	4804.6
25°	4500.0	4787.4	4568.9	4705.6	4782.0
27.5°	4328.9	4582.9	4433.3	4627.0	4722.8
30°	4155.6	4371.9	4294.5	4564.6	4734.7
32.5°	3993.1	4151.3	4180.4	4540.9	4568.9
35°	3839.2	3945.7	4004.9	4368.7	4517.2
37.5°	3670.2	3699.3	3856.4	4296.6	4439.8
40°	3498.0	3479.7	3731.5	4178.2	4376.3
42.5°	3312.9	3306.4	3599.2	4119.0	4218.0
45°	3137.4	3151.4	3410.8	3951.1	4098.6
47.5°	2957.7	2976.0	3232.1	3767.1	3950.0
50°	2748.9	2772.6	3072.8	3603.5	3839.2
52.5°	2522.9	2568.1	2917.9	3448.5	3686.3
55°	2310.8	2348.5	2720.9	3316.1	3579.8
57.5°	2117.1	2139.7	2517.5	3149.3	3348.4
60°	1926.6	1932.0	2325.9	2964.1	3154.6
62.5°	1708.1	1717.8	2128.9	2745.7	3000.7
65°	1462.7	1509.0	1916.9	2536.8	2767.2
67.5°	1233.4	1314.2	1700.6	2345.3	2465.8
70°	988.0	1124.7	1488.5	2120.3	2205.3
72.5°	763.1	923.5	1271.1	1868.5	1987.9
75°	553.2	733.0	1068.8	1642.4	1745.8
77.5°	372.4	555.4	879.3	1392.7	1529.4
80°	222.8	405.8	710.4	1161.3	1315.2
82.5°	114.1	272.3	551.1	974.1	1111.8
85°	49.5	172.2	416.5	808.3	927.8
87.5°	14.0	97.9	306.7	653.3	754.5
90°	1.1	51.7	218.5	512.3	603.8
92.5°	1.1	24.8	153.9	387.5	457.4
95°	1.1	12.9	95.8	280.9	343.3
97.5°	1.1	7.5	58.1	199.1	251.9
100°	1.1	6.5	34.4	132.4	179.7
102.5°	1.1	7.5	23.7	84.0	117.3
105°	1.1	7.5	19.4	54.9	77.5
107.5°	2.2	7.5	17.2	40.9	53.8
110°	1.1	6.5	18.3	31.2	42.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.2	5.4	17.2	25.8	31.2
115°	1.1	4.3	15.1	24.8	25.8
117.5°	2.2	3.2	11.8	24.8	25.8
120°	2.2	2.2	9.7	23.7	26.9
122.5°	2.2	2.2	7.5	21.5	25.8
125°	1.1	2.2	6.5	16.1	22.6
127.5°	2.2	2.2	5.4	12.9	17.2
130°	2.2	2.2	4.3	9.7	12.9
132.5°	2.2	2.2	3.2	7.5	9.7
135°	2.2	2.2	2.2	5.4	7.5
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)