

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: P517721

Luminaire Tested: HVL12-8-LD4-3STD-50-UNV-O-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: P517721
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-3STD-50-UNV-O-EDD-90
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18596.9 lumens
Efficiency: N/A
Efficacy: 94.8 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

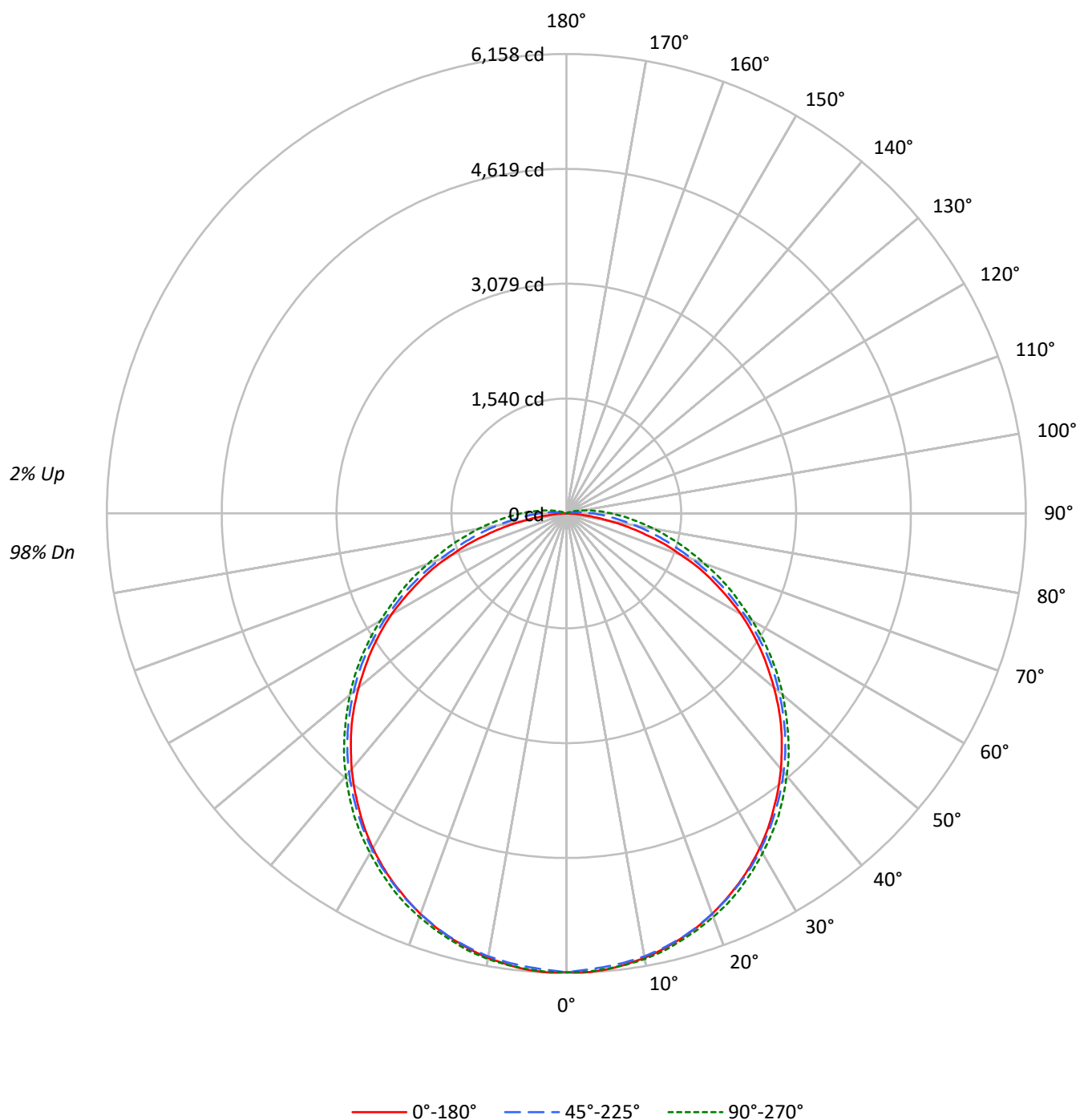
Input Watts (W): 196.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

TEST NUMBER: P517721

CATALOG NUMBER: HVL12-8-LD4-3STD-50-UNV-O-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P517721

CATALOG NUMBER: HVL12-8-LD4-3STD-50-UNV-O-EDD-90

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°	8276	8276	8276
5°	8275	8142	8157
10°	8235	8047	8050
15°	8179	7934	7908
20°	8118	7801	7769
25°	8044	7663	7626
30°	7956	7512	7455
35°	7840	7342	7287
40°	7722	7162	7082
45°	7595	6962	6858
50°	7425	6725	6614
55°	7244	6463	6341
60°	7027	6105	6013
65°	6659	5700	5696
70°	6118	5213	5321
75°	5336	4679	5009
80°	4140	4181	4776
85°	2386	3728	4646

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 7595 cd/sqm

TEST NUMBER: P517721

CATALOG NUMBER: HVL12-8-LD4-3STD-50-UNV-O-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	582.1	3.1
10°-20°	1669.6	9.0
20°-30°	2533.3	13.6
30°-40°	3063.2	16.5
40°-50°	3196.2	17.2
50°-60°	2922.3	15.7
60°-70°	2278.1	12.2
70°-80°	1425.1	7.7
80°-90°	647.2	3.5
90°-100°	216.9	1.2
100°-110°	54.4	0.3
110°-120°	8.6	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°	4784.9	25.7
0°-40°	7848.1	42.2
0°-60°	13966.6	75.1
0°-90°	18317.0	98.5
90°-120°	279.9	1.5
90°-150°	279.9	1.5
90°-180°	280.0	1.5
0°-180°	18596.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6151	6151	6151	6151	6151	
5°	6138	6126	6099	6128	6128	583
15°	5904	5914	5898	5932	5930	1667
25°	5471	5475	5481	5527	5536	2521
35°	4843	4865	4885	4934	4954	3031
45°	4074	4111	4144	4185	4205	3140
55°	3180	3218	3277	3325	3346	2841
65°	2185	2223	2300	2391	2429	2162
75°	1106	1174	1346	1506	1563	1179
85°	191	354	608	803	874	242
90°	1	132	358	538	603	8
95°	1	35	186	336	389	1
105°	3	4	30	90	120	3
115°	4	4	6	16	23	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

TEST NUMBER: P517721

CATALOG NUMBER: HVL12-8-LD4-3STD-50-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6150.8	6150.8	6150.8	6150.8	6150.8
2.5°	6158.0	6149.3	6121.8	6149.3	6147.9
5°	6137.7	6126.1	6098.6	6127.6	6127.6
7.5°	6097.1	6092.8	6068.1	6101.5	6101.5
10°	6049.3	6047.8	6027.5	6063.8	6065.2
12.5°	5982.6	5988.4	5969.5	6004.3	6008.7
15°	5904.3	5914.4	5898.5	5931.8	5930.4
17.5°	5818.7	5824.5	5812.9	5850.6	5849.2
20°	5712.9	5720.1	5711.4	5750.6	5754.9
22.5°	5595.4	5605.6	5604.1	5644.7	5656.3
25°	5470.7	5475.1	5480.9	5527.3	5536.0
27.5°	5333.0	5340.2	5350.4	5392.4	5401.1
30°	5182.2	5193.8	5205.4	5248.9	5260.5
32.5°	5022.7	5034.3	5048.8	5105.3	5111.1
35°	4842.9	4864.6	4884.9	4934.2	4954.5
37.5°	4663.1	4690.6	4709.5	4761.7	4777.6
40°	4473.2	4500.7	4531.1	4586.2	4596.4
42.5°	4274.5	4306.4	4342.7	4392.0	4409.4
45°	4074.4	4110.7	4144.0	4184.6	4204.9
47.5°	3858.4	3894.6	3935.2	3981.6	3994.7
50°	3635.1	3677.1	3720.6	3764.1	3787.3
52.5°	3406.0	3456.7	3506.0	3552.4	3574.2
55°	3179.8	3217.5	3276.9	3324.8	3346.5
57.5°	2944.9	2976.8	3030.4	3108.7	3120.3
60°	2705.6	2734.6	2789.7	2853.5	2879.6
62.5°	2441.7	2480.9	2538.9	2620.1	2643.3
65°	2185.1	2222.8	2299.6	2391.0	2428.7
67.5°	1937.2	1950.2	2048.8	2144.5	2205.4
70°	1644.3	1693.6	1808.1	1925.6	1972.0
72.5°	1392.0	1441.3	1567.4	1705.2	1763.2
75°	1106.3	1174.5	1345.6	1506.5	1563.1
77.5°	855.5	930.9	1142.6	1305.0	1370.2
80°	597.4	714.8	945.4	1128.1	1199.1
82.5°	375.5	520.5	767.0	958.4	1020.8
85°	191.4	353.8	607.5	803.3	874.3
87.5°	50.7	229.1	472.7	659.7	732.2
90°	1.4	131.9	358.1	537.9	603.2
92.5°	1.4	73.9	266.8	427.7	494.4
95°	1.4	34.8	185.6	336.4	388.6
97.5°	1.4	14.5	127.6	253.7	305.9
100°	1.4	7.2	81.2	184.1	229.1
102.5°	2.9	4.3	50.7	131.9	168.2
105°	2.9	4.3	30.4	89.9	120.3
107.5°	2.9	4.3	17.4	60.9	82.6
110°	4.3	4.3	10.1	37.7	55.1

TEST NUMBER: P517721

CATALOG NUMBER: HVL12-8-LD4-3STD-50-UNV-O-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.3	4.3	5.8	24.6	36.2
115°	4.3	4.3	5.8	15.9	23.2
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)