

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: P518253

Luminaire Tested: HVL8-8-LD4-3HI-30-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: P518253
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3HI-30-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24440.0 lumens
Efficiency: N/A
Efficacy: 97.1 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

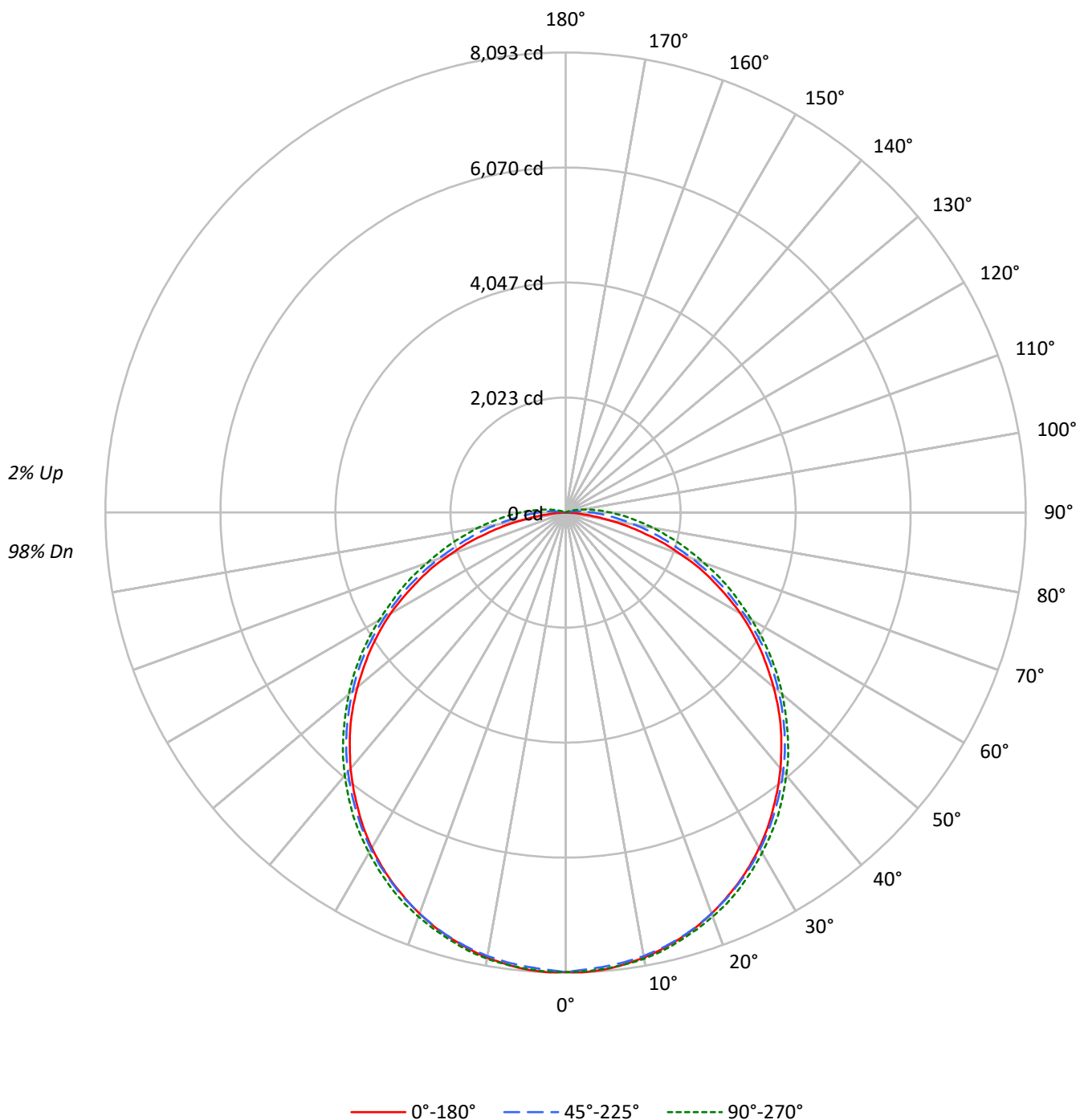
Input Watts (W): 251.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	16314	16314	16314
5°	16312	15970	15965
10°	16233	15703	15645
15°	16122	15406	15262
20°	16004	15070	14889
25°	15856	14725	14509
30°	15683	14355	14079
35°	15455	13946	13652
40°	15222	13516	13154
45°	14971	13045	12617
50°	14636	12499	12040
55°	14279	11898	11403
60°	13853	11112	10659
65°	13127	10230	9922
70°	12061	9187	9065
75°	10519	8041	8286
80°	8160	6921	7575
85°	4704	5797	6896

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 14971 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	764.9	3.1
10°-20°	2194.1	9.0
20°-30°	3329.2	13.6
30°-40°	4025.6	16.5
40°-50°	4200.4	17.2
50°-60°	3840.5	15.7
60°-70°	2993.8	12.2
70°-80°	1872.8	7.7
80°-90°	850.6	3.5
90°-100°	285.1	1.2
100°-110°	71.6	0.3
110°-120°	11.3	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°	6288.3	25.7
0°-40°	10314.0	42.2
0°-60°	18354.9	75.1
0°-90°	24072.1	98.5
90°-120°	367.9	1.5
90°-150°	367.9	1.5
90°-180°	368.0	1.5
0°-180°	24440.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8083	8083	8083	8083	8083	
5°	8066	8051	8015	8053	8053	766
15°	7759	7773	7752	7796	7794	2190
25°	7190	7195	7203	7264	7275	3313
35°	6364	6393	6420	6484	6511	3984
45°	5355	5402	5446	5499	5526	4126
55°	4179	4228	4306	4369	4398	3733
65°	2872	2921	3022	3142	3192	2841
75°	1454	1544	1768	1980	2054	1550
85°	252	465	798	1056	1149	318
90°	2	173	471	707	793	10
95°	2	46	244	442	511	2
105°	4	6	40	118	158	4
115°	6	6	8	21	30	4
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°	8083.3	8083.3	8083.3	8083.3	8083.3
2.5°	8092.8	8081.4	8045.2	8081.4	8079.5
5°	8066.1	8050.9	8014.7	8052.8	8052.8
7.5°	8012.8	8007.1	7974.7	8018.5	8018.5
10°	7949.9	7948.0	7921.3	7968.9	7970.8
12.5°	7862.2	7869.9	7845.1	7890.8	7896.5
15°	7759.3	7772.7	7751.7	7795.5	7793.6
17.5°	7646.9	7654.5	7639.3	7688.8	7686.9
20°	7507.8	7517.3	7505.9	7557.3	7563.1
22.5°	7353.5	7366.8	7364.9	7418.2	7433.5
25°	7189.6	7195.3	7202.9	7263.9	7275.3
27.5°	7008.6	7018.1	7031.4	7086.7	7098.1
30°	6810.4	6825.6	6840.9	6898.0	6913.3
32.5°	6600.8	6616.0	6635.1	6709.4	6717.0
35°	6364.5	6393.1	6419.7	6484.5	6511.2
37.5°	6128.2	6164.4	6189.2	6257.8	6278.7
40°	5878.6	5914.8	5954.8	6027.2	6040.5
42.5°	5617.5	5659.4	5707.1	5771.9	5794.7
45°	5354.6	5402.2	5446.0	5499.4	5526.0
47.5°	5070.6	5118.3	5171.6	5232.6	5249.7
50°	4777.2	4832.4	4889.6	4946.8	4977.3
52.5°	4476.1	4542.8	4607.6	4668.6	4697.1
55°	4178.8	4228.4	4306.5	4369.4	4398.0
57.5°	3870.1	3912.1	3982.6	4085.5	4100.7
60°	3555.7	3593.8	3666.2	3750.1	3784.4
62.5°	3208.9	3260.4	3336.6	3443.3	3473.8
65°	2871.6	2921.2	3022.2	3142.2	3191.8
67.5°	2545.8	2562.9	2692.5	2818.3	2898.3
70°	2160.9	2225.7	2376.2	2530.5	2591.5
72.5°	1829.3	1894.1	2059.9	2240.9	2317.1
75°	1453.9	1543.5	1768.3	1979.8	2054.2
77.5°	1124.3	1223.4	1501.6	1715.0	1800.7
80°	785.1	939.4	1242.4	1482.5	1575.9
82.5°	493.5	684.1	1008.0	1259.6	1341.5
85°	251.5	465.0	798.4	1055.7	1149.0
87.5°	66.7	301.1	621.2	867.0	962.3
90°	1.9	173.4	470.7	707.0	792.7
92.5°	1.9	97.2	350.6	562.1	649.8
95°	1.9	45.7	243.9	442.1	510.7
97.5°	1.9	19.1	167.7	333.5	402.1
100°	1.9	9.5	106.7	242.0	301.1
102.5°	3.8	5.7	66.7	173.4	221.0
105°	3.8	5.7	40.0	118.1	158.2
107.5°	3.8	5.7	22.9	80.0	108.6
110°	5.7	5.7	13.3	49.5	72.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.7	5.7	7.6	32.4	47.6
115°	5.7	5.7	7.6	21.0	30.5
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)