

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: P518215

Luminaire Tested: HVL8-8-LD4-2HI-50-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: P518215
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2HI-50-UNV-C-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18452.0 lumens
Efficiency: N/A
Efficacy: 107.1 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

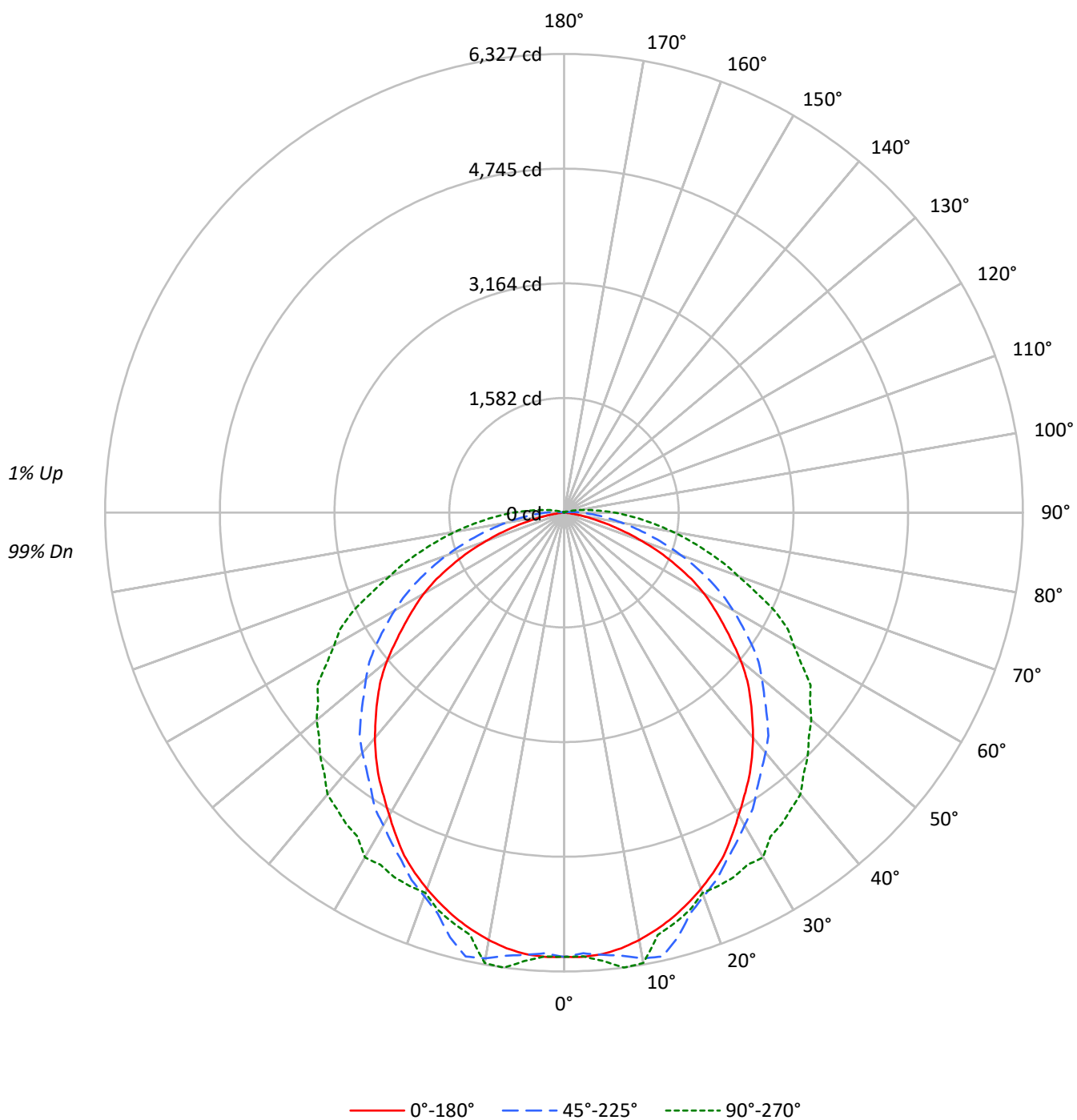
Input Watts (W): 172.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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				0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		0
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		99
1	108	103	98	94	105	100	96	92	96	92	89		91	89	86		81
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		56
4	81	69	60	53	79	67	59	52	65	57	51		62	56	51		47
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	46	39	52	45	39		50	44	38		36
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		32
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		28
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		25
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12362	12362	12362
5°	12356	12192	12302
10°	12216	12372	12378
15°	12016	12052	11489
20°	11769	11303	10987
25°	11505	10828	11056
30°	11093	10447	11178
35°	10808	10086	10980
40°	10500	9819	11048
45°	10169	9471	10849
50°	9763	9106	10766
55°	9154	8715	10760
60°	8701	8172	10301
65°	7752	7522	9972
70°	6393	6672	8943
75°	4640	5634	8163
80°	2685	4588	7328
85°	1074	3506	6455

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 10849 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	588.7	3.2
10°-20°	1676.4	9.1
20°-30°	2494.4	13.5
30°-40°	2998.2	16.2
40°-50°	3155.8	17.1
50°-60°	2928.2	15.9
60°-70°	2315.3	12.5
70°-80°	1414.2	7.7
80°-90°	616.2	3.3
90°-100°	191.8	1.0
100°-110°	43.1	0.2
110°-120°	17.3	0.1
120°-130°	9.7	0.1
130°-140°	2.6	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°	4759.5	25.8
0°-40°	7757.7	42.0
0°-60°	13841.7	75.0
0°-90°	18187.4	98.6
90°-120°	252.2	1.4
90°-150°	264.6	1.4
90°-180°	265.0	1.4
0°-180°	18452.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6125	6125	6125	6125	6125	
5°	6110	6098	6119	6187	6205	579
15°	5783	6005	6064	5863	5867	1629
25°	5217	5550	5297	5455	5544	2395
35°	4451	4574	4643	5064	5237	2782
45°	3637	3653	3954	4580	4751	2804
55°	2679	2722	3154	3844	4150	2407
65°	1696	1749	2222	2941	3208	1679
75°	641	850	1239	1904	2024	700
85°	57	200	483	937	1076	89
90°	1	60	253	594	700	3
95°	1	15	111	326	398	1
105°	1	9	22	64	90	2
115°	1	5	18	29	30	2
125°	1	2	8	19	26	2
135°	2	2	2	6	9	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°	6125.1	6125.1	6125.1	6125.1	6125.1
2.5°	6132.5	6116.3	6082.6	6115.1	6123.8
5°	6110.1	6097.6	6118.8	6187.4	6204.9
7.5°	6058.9	6106.3	6162.5	6287.3	6327.2
10°	5982.8	6072.7	6241.1	6347.2	6306.0
12.5°	5890.5	6042.7	6268.5	6061.4	5965.4
15°	5783.2	6005.3	6063.9	5863.0	5866.8
17.5°	5657.2	5974.1	5793.2	5788.2	5752.0
20°	5521.2	5869.3	5629.7	5619.7	5581.1
22.5°	5375.2	5730.8	5485.0	5465.0	5569.8
25°	5216.7	5549.9	5296.6	5455.0	5543.6
27.5°	5018.3	5312.8	5139.4	5364.0	5475.0
30°	4817.4	5068.2	4978.4	5291.6	5488.7
32.5°	4629.0	4812.5	4846.1	5264.1	5296.6
35°	4450.6	4574.1	4642.8	5064.5	5236.7
37.5°	4254.7	4288.4	4470.6	4980.9	5146.8
40°	4055.1	4033.9	4325.8	4843.7	5073.2
42.5°	3840.5	3833.0	4172.4	4775.0	4889.8
45°	3637.1	3653.3	3954.0	4580.4	4751.3
47.5°	3428.7	3449.9	3746.9	4367.0	4579.1
50°	3186.7	3214.1	3562.2	4177.4	4450.6
52.5°	2924.7	2977.1	3382.6	3997.7	4273.4
55°	2678.9	2722.5	3154.2	3844.2	4149.9
57.5°	2454.3	2480.5	2918.4	3650.8	3881.7
60°	2233.4	2239.7	2696.3	3436.2	3657.1
62.5°	1980.1	1991.4	2468.0	3182.9	3478.6
65°	1695.7	1749.3	2222.2	2940.9	3207.9
67.5°	1429.9	1523.5	1971.4	2718.8	2858.5
70°	1145.4	1303.9	1725.6	2458.0	2556.6
72.5°	884.6	1070.5	1473.6	2166.0	2304.5
75°	641.3	849.7	1239.0	1904.0	2023.8
77.5°	431.7	643.8	1019.4	1614.6	1773.0
80°	258.3	470.4	823.5	1346.3	1524.7
82.5°	132.3	315.7	638.8	1129.2	1288.9
85°	57.4	199.6	482.9	937.0	1075.5
87.5°	16.2	113.5	355.6	757.4	874.7
90°	1.2	59.9	253.3	593.9	700.0
92.5°	1.2	28.7	178.4	449.2	530.3
95°	1.2	15.0	111.0	325.7	398.0
97.5°	1.2	8.7	67.4	230.8	292.0
100°	1.2	7.5	39.9	153.5	208.4
102.5°	1.2	8.7	27.4	97.3	136.0
105°	1.2	8.7	22.5	63.6	89.8
107.5°	2.5	8.7	20.0	47.4	62.4
110°	1.2	7.5	21.2	36.2	48.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.5	6.2	20.0	29.9	36.2
115°	1.2	5.0	17.5	28.7	29.9
117.5°	2.5	3.7	13.7	28.7	29.9
120°	2.5	2.5	11.2	27.4	31.2
122.5°	2.5	2.5	8.7	25.0	29.9
125°	1.2	2.5	7.5	18.7	26.2
127.5°	2.5	2.5	6.2	15.0	20.0
130°	2.5	2.5	5.0	11.2	15.0
132.5°	2.5	2.5	3.7	8.7	11.2
135°	2.5	2.5	2.5	6.2	8.7
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)