

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: P517806

Luminaire Tested: HVL8-1-LD4-2STD-30-UNV-O-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: P517806
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-2STD-30-UNV-O-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1505.0 lumens
Efficiency: N/A
Efficacy: 92.3 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

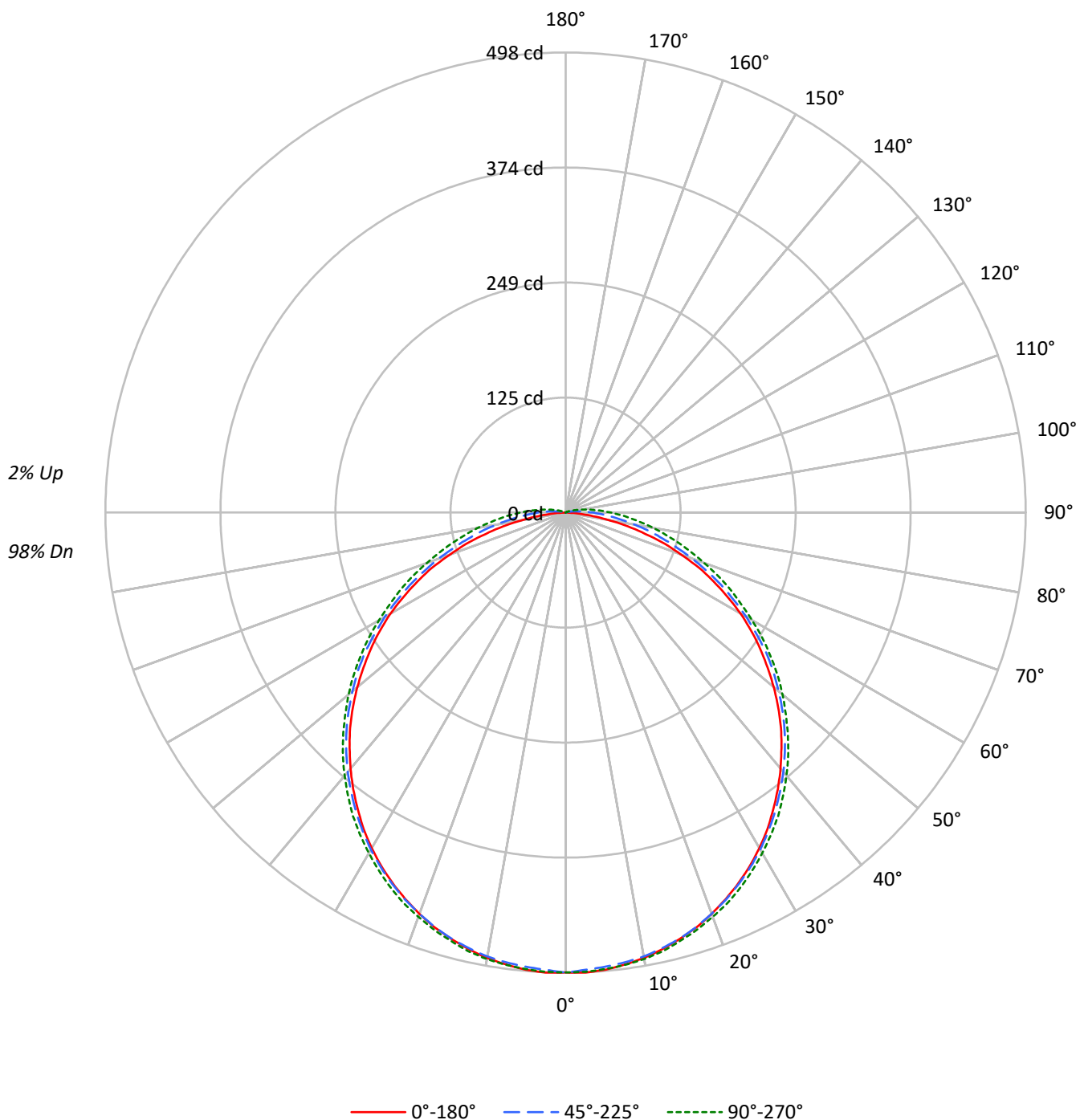
Input Watts (W): 16.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			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°	8037	8037	8037
5°	7935	7797	7865
10°	7796	7602	7707
15°	7645	7394	7518
20°	7489	7172	7334
25°	7318	6948	7148
30°	7133	6713	6935
35°	6917	6459	6726
40°	6694	6197	6481
45°	6453	5915	6216
50°	6165	5597	5931
55°	5850	5254	5617
60°	5487	4827	5250
65°	4976	4357	4887
70°	4310	3816	4466
75°	3442	3235	4082
80°	2308	2663	3730
85°	988	2087	3400

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 6453 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.1	3.1
10°-20°	135.1	9.0
20°-30°	205.0	13.6
30°-40°	247.9	16.5
40°-50°	258.7	17.2
50°-60°	236.5	15.7
60°-70°	184.4	12.2
70°-80°	115.3	7.7
80°-90°	52.4	3.5
90°-100°	17.5	1.2
100°-110°	4.4	0.3
110°-120°	0.7	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°	387.2	25.7
0°-40°	635.1	42.2
0°-60°	1130.3	75.1
0°-90°	1482.3	98.5
90°-120°	22.7	1.5
90°-150°	22.7	1.5
90°-180°	23.0	1.5
0°-180°	1505.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	498	498	498	498	498	
5°	497	496	494	496	496	47
15°	478	479	477	480	480	135
25°	443	443	444	447	448	204
35°	392	394	395	399	401	245
45°	330	333	335	339	340	254
55°	257	260	265	269	271	230
65°	177	180	186	194	196	175
75°	90	95	109	122	126	95
85°	16	29	49	65	71	20
90°	0	11	29	44	49	1
95°	0	3	15	27	31	0
105°	0	0	2	7	10	0
115°	0	0	0	1	2	0
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°	497.8	497.8	497.8	497.8	497.8
2.5°	498.3	497.6	495.4	497.6	497.5
5°	496.7	495.8	493.5	495.9	495.9
7.5°	493.4	493.1	491.1	493.8	493.8
10°	489.5	489.4	487.8	490.7	490.8
12.5°	484.2	484.6	483.1	485.9	486.3
15°	477.8	478.6	477.3	480.0	479.9
17.5°	470.9	471.4	470.4	473.5	473.4
20°	462.3	462.9	462.2	465.4	465.7
22.5°	452.8	453.6	453.5	456.8	457.7
25°	442.7	443.1	443.6	447.3	448.0
27.5°	431.6	432.2	433.0	436.4	437.1
30°	419.4	420.3	421.3	424.8	425.7
32.5°	406.5	407.4	408.6	413.2	413.6
35°	391.9	393.7	395.3	399.3	401.0
37.5°	377.4	379.6	381.1	385.3	386.6
40°	362.0	364.2	366.7	371.2	372.0
42.5°	345.9	348.5	351.4	355.4	356.8
45°	329.7	332.7	335.4	338.6	340.3
47.5°	312.2	315.2	318.5	322.2	323.3
50°	294.2	297.6	301.1	304.6	306.5
52.5°	275.6	279.7	283.7	287.5	289.2
55°	257.3	260.4	265.2	269.1	270.8
57.5°	238.3	240.9	245.2	251.6	252.5
60°	219.0	221.3	225.8	230.9	233.0
62.5°	197.6	200.8	205.5	212.0	213.9
65°	176.8	179.9	186.1	193.5	196.5
67.5°	156.8	157.8	165.8	173.5	178.5
70°	133.1	137.1	146.3	155.8	159.6
72.5°	112.6	116.6	126.8	138.0	142.7
75°	89.5	95.0	108.9	121.9	126.5
77.5°	69.2	75.3	92.5	105.6	110.9
80°	48.3	57.8	76.5	91.3	97.0
82.5°	30.4	42.1	62.1	77.6	82.6
85°	15.5	28.6	49.2	65.0	70.8
87.5°	4.1	18.5	38.3	53.4	59.3
90°	0.1	10.7	29.0	43.5	48.8
92.5°	0.1	6.0	21.6	34.6	40.0
95°	0.1	2.8	15.0	27.2	31.4
97.5°	0.1	1.2	10.3	20.5	24.8
100°	0.1	0.6	6.6	14.9	18.5
102.5°	0.2	0.4	4.1	10.7	13.6
105°	0.2	0.4	2.5	7.3	9.7
107.5°	0.2	0.4	1.4	4.9	6.7
110°	0.4	0.4	0.8	3.1	4.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.4	0.4	0.5	2.0	2.9
115°	0.4	0.4	0.5	1.3	1.9
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)