

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: P518293

Luminaire Tested: HVL8-8-LD4-3STD-40-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: P518293
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3STD-40-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20133.0 lumens
Efficiency: N/A
Efficacy: 105.4 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

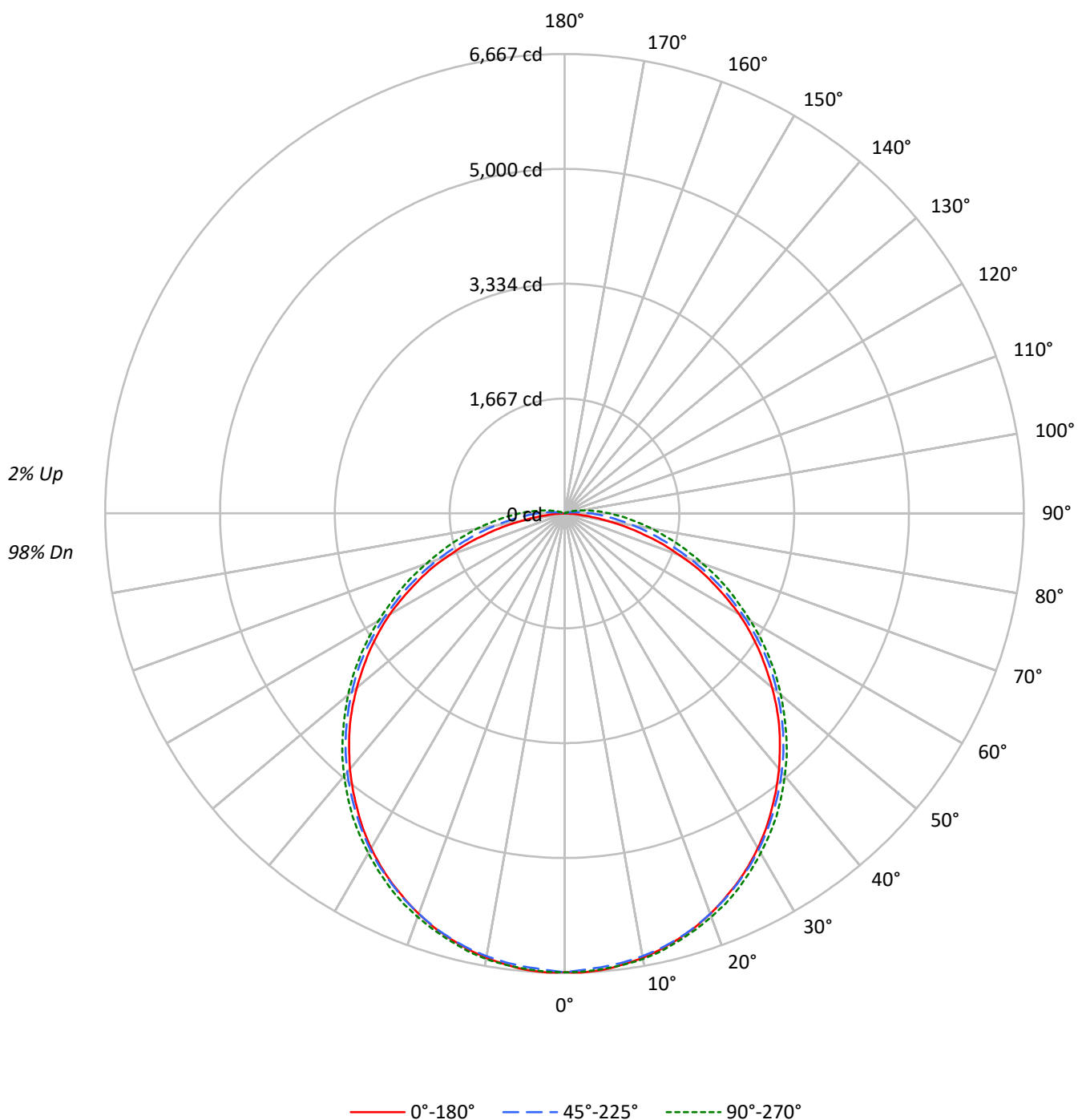
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	13439	13439	13439
5°	13437	13155	13152
10°	13372	12936	12888
15°	13281	12691	12572
20°	13183	12415	12265
25°	13062	12130	11952
30°	12919	11825	11598
35°	12732	11489	11246
40°	12539	11134	10836
45°	12333	10746	10394
50°	12057	10296	9918
55°	11763	9802	9393
60°	11411	9154	8781
65°	10814	8427	8173
70°	9935	7568	7467
75°	8666	6624	6826
80°	6722	5702	6240
85°	3875	4775	5681

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 12333 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	630.1	3.1
10°-20°	1807.5	9.0
20°-30°	2742.5	13.6
30°-40°	3316.2	16.5
40°-50°	3460.2	17.2
50°-60°	3163.7	15.7
60°-70°	2466.2	12.2
70°-80°	1542.7	7.7
80°-90°	700.7	3.5
90°-100°	234.9	1.2
100°-110°	58.9	0.3
110°-120°	9.3	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°	5180.2	25.7
0°-40°	8496.4	42.2
0°-60°	15120.2	75.1
0°-90°	19829.9	98.5
90°-120°	303.1	1.5
90°-150°	303.1	1.5
90°-180°	303.0	1.5
0°-180°	20133.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6659	6659	6659	6659	6659	
5°	6645	6632	6602	6634	6634	631
15°	6392	6403	6386	6422	6420	1804
25°	5923	5927	5934	5984	5993	2729
35°	5243	5266	5288	5342	5364	3282
45°	4411	4450	4486	4530	4552	3399
55°	3442	3483	3548	3599	3623	3075
65°	2366	2406	2490	2588	2629	2341
75°	1198	1272	1457	1631	1692	1277
85°	207	383	658	870	946	262
90°	2	143	388	582	653	8
95°	2	38	201	364	421	1
105°	3	5	33	97	130	3
115°	5	5	6	17	25	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6658.8	6658.8	6658.8	6658.8	6658.8
2.5°	6666.6	6657.2	6627.4	6657.2	6655.6
5°	6644.7	6632.1	6602.3	6633.7	6633.7
7.5°	6600.7	6596.0	6569.3	6605.4	6605.4
10°	6548.9	6547.3	6525.4	6564.6	6566.2
12.5°	6476.7	6483.0	6462.6	6500.2	6504.9
15°	6391.9	6402.9	6385.6	6421.8	6420.2
17.5°	6299.3	6305.6	6293.0	6333.8	6332.3
20°	6184.7	6192.6	6183.2	6225.5	6230.2
22.5°	6057.6	6068.6	6067.0	6110.9	6123.5
25°	5922.6	5927.3	5933.6	5983.8	5993.2
27.5°	5773.5	5781.3	5792.3	5837.8	5847.2
30°	5610.2	5622.8	5635.3	5682.4	5695.0
32.5°	5437.5	5450.1	5465.8	5527.0	5533.3
35°	5242.9	5266.4	5288.4	5341.8	5363.8
37.5°	5048.2	5078.1	5098.5	5155.0	5172.2
40°	4842.6	4872.4	4905.4	4965.0	4976.0
42.5°	4627.6	4662.1	4701.3	4754.7	4773.5
45°	4410.9	4450.2	4486.3	4530.2	4552.2
47.5°	4177.0	4216.3	4260.2	4310.5	4324.6
50°	3935.3	3980.8	4027.9	4075.0	4100.1
52.5°	3687.3	3742.2	3795.6	3845.8	3869.4
55°	3442.4	3483.2	3547.6	3599.4	3622.9
57.5°	3188.1	3222.6	3280.7	3365.5	3378.1
60°	2929.1	2960.5	3020.2	3089.2	3117.5
62.5°	2643.4	2685.8	2748.6	2836.5	2861.6
65°	2365.6	2406.4	2489.6	2588.5	2629.3
67.5°	2097.2	2111.3	2218.0	2321.6	2387.6
70°	1780.1	1833.4	1957.4	2084.6	2134.8
72.5°	1506.9	1560.3	1696.9	1846.0	1908.8
75°	1197.7	1271.5	1456.7	1630.9	1692.2
77.5°	926.1	1007.8	1236.9	1412.8	1483.4
80°	646.7	773.9	1023.5	1221.2	1298.2
82.5°	406.6	563.5	830.4	1037.6	1105.1
85°	207.2	383.0	657.7	869.6	946.5
87.5°	54.9	248.0	511.7	714.2	792.7
90°	1.6	142.8	387.7	582.4	653.0
92.5°	1.6	80.1	288.8	463.1	535.3
95°	1.6	37.7	200.9	364.2	420.7
97.5°	1.6	15.7	138.1	274.7	331.2
100°	1.6	7.8	87.9	199.4	248.0
102.5°	3.1	4.7	54.9	142.8	182.1
105°	3.1	4.7	33.0	97.3	130.3
107.5°	3.1	4.7	18.8	65.9	89.5
110°	4.7	4.7	11.0	40.8	59.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.7	4.7	6.3	26.7	39.2
115°	4.7	4.7	6.3	17.3	25.1
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)