

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: P518258

Luminaire Tested: HVL8-8-LD4-3HI-35-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: P518258
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3HI-35-UNV-O-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

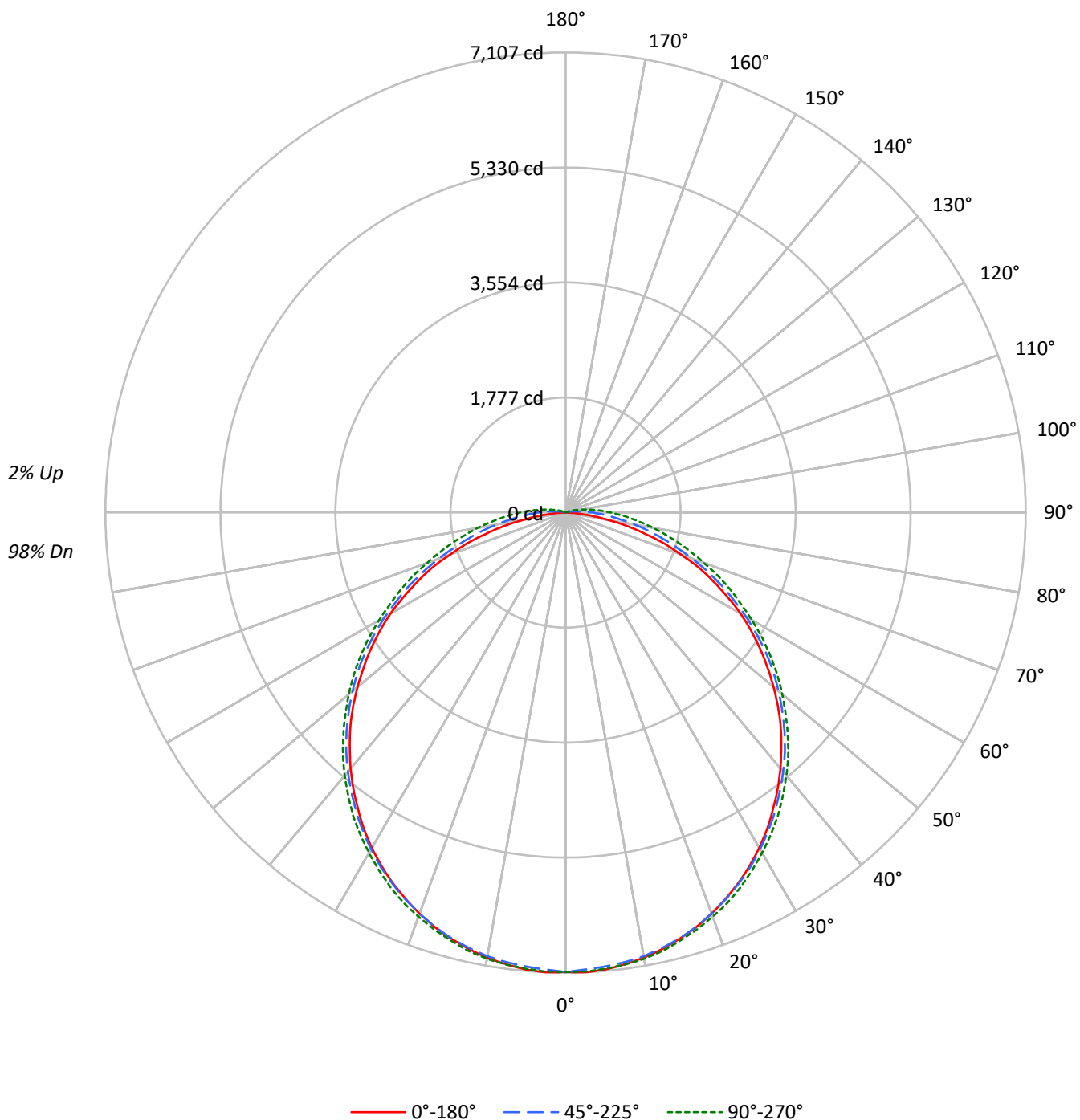
Lumens per Lamp: N/A
Luminaire Lumens: 21464.0 lumens
Efficiency: N/A
Efficacy: 85.2 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

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

TEST NUMBER: P518258
CATALOG NUMBER: HVL8-8-LD4-3HI-35-UNV-O-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P518258

CATALOG NUMBER: HVL8-8-LD4-3HI-35-UNV-O-EDD

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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	102	98	94	105	100	96	92	95	92	89		91	88	86		87
2	98	89	82	76	95	87	80	75	83	77	73		79	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	52		62	56	51		60
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		54
6	69	55	46	40	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14327	14327	14327
5°	14325	14025	14021
10°	14256	13791	13740
15°	14159	13530	13403
20°	14055	13235	13076
25°	13925	12932	12743
30°	13773	12607	12364
35°	13573	12248	11990
40°	13368	11870	11553
45°	13148	11457	11081
50°	12854	10977	10574
55°	12540	10449	10014
60°	12166	9759	9361
65°	11529	8985	8714
70°	10592	8068	7961
75°	9239	7062	7277
80°	7167	6078	6652
85°	4131	5091	6057

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 13148 cd/sqm

TEST NUMBER: P518258

CATALOG NUMBER: HVL8-8-LD4-3HI-35-UNV-O-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	671.8	3.1
10°-20°	1927.0	9.0
20°-30°	2923.9	13.6
30°-40°	3535.4	16.5
40°-50°	3689.0	17.2
50°-60°	3372.8	15.7
60°-70°	2629.3	12.2
70°-80°	1644.8	7.7
80°-90°	747.0	3.5
90°-100°	250.4	1.2
100°-110°	62.8	0.3
110°-120°	9.9	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°	5522.6	25.7
0°-40°	9058.1	42.2
0°-60°	16119.8	75.1
0°-90°	21140.9	98.5
90°-120°	323.1	1.5
90°-150°	323.1	1.5
90°-180°	323.0	1.5
0°-180°	21464.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7099	7099	7099	7099	7099	
5°	7084	7070	7039	7072	7072	673
15°	6814	6826	6808	6846	6845	1924
25°	6314	6319	6326	6379	6389	2909
35°	5590	5615	5638	5695	5718	3498
45°	4702	4744	4783	4830	4853	3624
55°	3670	3714	3782	3837	3862	3279
65°	2522	2566	2654	2760	2803	2495
75°	1277	1356	1553	1739	1804	1361
85°	221	408	701	927	1009	279
90°	2	152	413	621	696	9
95°	2	40	214	388	448	1
105°	3	5	35	104	139	3
115°	5	5	7	18	27	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: P518258

CATALOG NUMBER: HVL8-8-LD4-3HI-35-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7099.0	7099.0	7099.0	7099.0	7099.0
2.5°	7107.4	7097.3	7065.5	7097.3	7095.6
5°	7083.9	7070.5	7038.7	7072.2	7072.2
7.5°	7037.1	7032.1	7003.6	7042.1	7042.1
10°	6981.8	6980.2	6956.7	6998.6	7000.3
12.5°	6904.9	6911.6	6889.8	6930.0	6935.0
15°	6814.5	6826.2	6807.8	6846.3	6844.6
17.5°	6715.8	6722.5	6709.1	6752.6	6750.9
20°	6593.6	6602.0	6591.9	6637.1	6642.1
22.5°	6458.0	6469.8	6468.1	6514.9	6528.3
25°	6314.1	6319.1	6325.8	6379.4	6389.4
27.5°	6155.1	6163.5	6175.2	6223.8	6233.8
30°	5981.1	5994.5	6007.9	6058.1	6071.5
32.5°	5797.0	5810.4	5827.1	5892.4	5899.1
35°	5589.5	5614.6	5638.0	5694.9	5718.4
37.5°	5382.0	5413.8	5435.5	5495.8	5514.2
40°	5162.8	5194.5	5229.7	5293.3	5305.0
42.5°	4933.5	4970.3	5012.1	5069.0	5089.1
45°	4702.5	4744.4	4782.9	4829.7	4853.2
47.5°	4453.2	4495.0	4541.9	4595.4	4610.5
50°	4195.5	4244.0	4294.2	4344.4	4371.2
52.5°	3931.1	3989.6	4046.5	4100.1	4125.2
55°	3670.0	3713.5	3782.1	3837.3	3862.4
57.5°	3398.9	3435.7	3497.6	3588.0	3601.4
60°	3122.8	3156.2	3219.8	3293.5	3323.6
62.5°	2818.2	2863.4	2930.3	3024.0	3050.8
65°	2522.0	2565.5	2654.2	2759.6	2803.1
67.5°	2235.8	2250.9	2364.7	2475.1	2545.4
70°	1897.8	1954.7	2086.9	2222.4	2276.0
72.5°	1606.6	1663.5	1809.1	1968.0	2035.0
75°	1276.9	1355.5	1553.0	1738.8	1804.0
77.5°	987.4	1074.4	1318.7	1506.2	1581.5
80°	689.5	825.0	1091.1	1302.0	1384.0
82.5°	433.4	600.8	885.3	1106.2	1178.1
85°	220.9	408.3	701.2	927.1	1009.1
87.5°	58.6	264.4	545.6	761.4	845.1
90°	1.7	152.3	413.4	620.9	696.2
92.5°	1.7	85.3	307.9	493.7	570.7
95°	1.7	40.2	214.2	388.3	448.5
97.5°	1.7	16.7	147.3	292.9	353.1
100°	1.7	8.4	93.7	212.5	264.4
102.5°	3.3	5.0	58.6	152.3	194.1
105°	3.3	5.0	35.1	103.8	138.9
107.5°	3.3	5.0	20.1	70.3	95.4
110°	5.0	5.0	11.7	43.5	63.6

TEST NUMBER: P518258

CATALOG NUMBER: HVL8-8-LD4-3HI-35-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.0	5.0	6.7	28.4	41.8
115°	5.0	5.0	6.7	18.4	26.8
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)