

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: HALO

Report Number: P295532

Luminaire Tested: **HU1148D9SMB-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P295532
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1904-227-14)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HU1148D9SMB-4000K
Description: HALO HU11 UNDERCABINET LED FIXTURE
48-INCH, SELECTABLE CCT, MATTE BLACK FINISH
Light Source: (224) 90 CRI LEDS TUNED TO 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

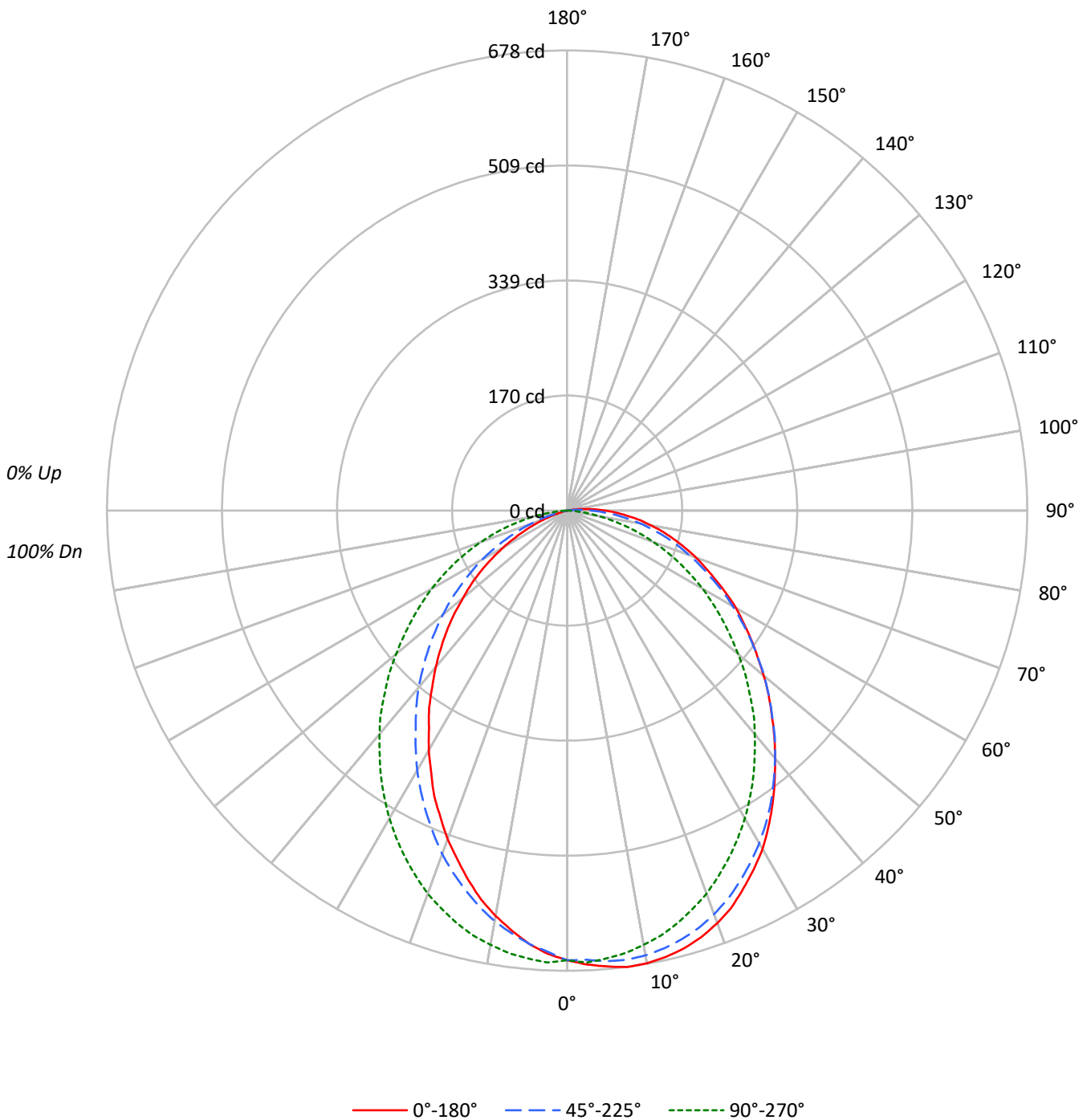
Lumens per Lamp: N/A
Luminaire Lumens: 1590.0 lumens
Efficiency: N/A
Efficacy: 75.7 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.18 / 1.26
Luminous Opening: Rectangular w/ Sides (W: 3.92' x L: 0.08' x H: 0.04')
CIE Type: Direct

Input Watts (W): 21
Input Voltage (V): 120
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: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	100	92	85	79	97	90	84	78	86	81	76	83	78	75	80	76	73	71
3	91	81	73	67	89	79	72	66	76	70	65	73	68	64	71	66	63	60
4	84	72	64	57	81	71	63	57	68	61	56	66	60	55	64	58	54	52
5	77	65	56	50	75	64	55	49	61	54	49	59	53	48	58	52	48	45
6	72	59	50	44	70	58	49	43	56	48	43	54	48	43	52	47	42	40
7	66	53	45	39	65	52	44	39	51	44	38	49	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	40	34	45	39	34	44	38	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	42	34	29	53	41	34	29	40	33	28	39	33	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	21849	21849	21849
5°	21387	21912	20328
10°	20844	21716	18662
15°	20097	21418	16954
20°	19205	20994	15288
25°	18127	20425	13683
30°	17018	19821	12045
35°	15736	19118	10568
40°	14451	18357	9135
45°	13255	17536	7804
50°	12152	16658	6423
55°	11096	15779	5186
60°	10162	14922	3828
65°	9083	13893	2519
70°	8197	12638	1239
75°	7220	10981	218
80°	6189	8633	0
85°	5049	4656	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.4	3.9
10°-20°	174.7	11.0
20°-30°	253.0	15.9
30°-40°	286.5	18.0
40°-50°	277.0	17.4
50°-60°	233.2	14.7
60°-70°	166.6	10.5
70°-80°	92.5	5.8
80°-90°	36.7	2.3
90°-100°	7.4	0.5
100°-110°	0.1	0.0
110°-120°	0.0	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°	490.1	30.8
0°-40°	776.6	48.8
0°-60°	1286.7	80.9
0°-90°	1582.5	99.5
90°-120°	7.5	0.5
90°-150°	7.5	0.5
90°-180°	8.0	0.5
0°-180°	1590.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	662	662	662	662	662	
5°	674	666	662	641	641	64
15°	668	654	629	579	563	188
25°	614	602	564	491	464	283
35°	528	524	478	389	354	330
45°	426	427	380	289	251	330
55°	331	330	279	190	155	296
65°	241	234	182	98	67	240
75°	162	150	90	22	5	172
85°	90	71	14	0	0	81
90°	56	36	0	0	0	31
95°	27	10	0	0	0	18
105°	0	0	0	0	0	1
115°	0	0	0	0	0	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°	112.5°	135°	157.5°	180°
0°	662.5	662.5	662.5	662.5	662.5	662.5	662.5	662.5	662.5
2.5°	669.4	671.4	662.5	665.5	666.5	659.6	650.7	654.7	653.7
5°	674.3	676.3	666.5	666.5	662.5	653.7	640.9	641.9	640.9
7.5°	678.3	679.3	667.5	664.5	657.6	643.8	628.1	627.1	624.1
10°	677.3	677.3	665.5	660.6	649.7	633.0	614.3	610.4	606.4
12.5°	673.4	674.3	660.6	653.7	640.9	619.2	597.6	590.7	586.7
15°	667.5	668.4	653.7	645.8	629.1	604.4	578.9	569.0	563.1
17.5°	658.6	658.6	644.8	634.0	615.3	586.7	559.2	546.4	538.5
20°	646.8	645.8	633.0	621.2	600.5	568.0	538.5	522.7	514.9
22.5°	633.0	632.0	619.2	606.4	582.8	549.3	514.9	497.1	488.3
25°	614.3	616.3	602.5	589.7	564.1	527.7	491.2	470.6	463.7
27.5°	595.6	596.6	584.8	572.0	544.4	506.0	466.6	442.0	434.1
30°	575.9	574.9	566.1	552.3	523.7	481.4	442.0	416.4	407.6
32.5°	552.3	552.3	545.4	531.6	501.1	457.8	415.4	388.9	379.0
35°	527.7	527.7	523.7	509.9	478.4	434.1	388.9	363.3	354.4
37.5°	502.1	504.0	500.1	486.3	453.8	408.5	365.2	337.7	325.9
40°	476.5	479.4	476.5	462.7	430.2	383.9	340.6	310.1	301.2
42.5°	451.9	452.8	452.8	438.1	406.6	360.3	314.0	284.5	275.6
45°	426.3	428.2	427.2	414.4	380.0	334.7	289.4	259.9	251.0
47.5°	402.6	403.6	402.6	389.8	355.4	308.1	263.8	234.3	225.4
50°	378.0	379.0	379.0	365.2	328.8	282.5	239.2	210.7	199.8
52.5°	353.4	354.4	353.4	340.6	303.2	257.9	215.6	186.1	178.2
55°	330.8	330.8	329.8	316.0	278.6	233.3	190.0	162.4	154.6
57.5°	308.1	308.1	305.2	290.4	254.0	209.7	167.4	139.8	130.9
60°	287.5	284.5	281.6	265.8	230.4	185.1	144.7	118.1	108.3
62.5°	263.8	263.8	258.9	242.2	205.7	161.4	121.1	95.5	86.6
65°	241.2	241.2	234.3	218.5	182.1	137.8	98.4	74.8	66.9
67.5°	220.5	221.5	212.6	194.9	158.5	114.2	77.8	55.1	48.2
70°	201.8	199.8	191.0	171.3	134.9	93.5	57.1	36.4	30.5
72.5°	182.1	180.2	170.3	149.6	112.2	69.9	38.4	20.7	15.8
75°	162.4	160.5	149.6	126.0	89.6	49.2	21.7	7.9	4.9
77.5°	144.7	140.8	129.0	105.3	67.9	31.5	8.9	1.0	0.0
80°	125.0	122.1	109.3	82.7	48.2	15.8	2.0	0.0	0.0
82.5°	108.3	103.4	89.6	64.0	29.5	4.9	0.0	0.0	0.0
85°	89.6	84.7	70.9	44.3	13.8	0.0	0.0	0.0	0.0
87.5°	71.9	66.9	52.2	27.6	3.9	0.0	0.0	0.0	0.0
90°	56.1	51.2	36.4	13.8	0.0	0.0	0.0	0.0	0.0
92.5°	41.3	35.4	22.6	4.9	0.0	0.0	0.0	0.0	0.0
95°	26.6	21.7	9.8	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	14.8	10.8	3.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	4.9	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)