

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P358686

Luminaire Tested: **HL36AR13SPD2WED010TL3PIN2GMWWB**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P358686  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1908-462-7)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: HL36AR13SPD2WED010TL3PIN2GMWWB  
Description: HL3 13W Round, Spot optic with pin-hole trim, Lensed, Matte White  
Light Source: (1) 3100K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 897.1 lumens  
Efficiency: N/A  
Efficacy: 62.3 lumens/watt  
Spacing Criteria (0/90/45): 0.3 / 0.32 / 0.31  
Luminous Opening: Rectangular (W 0.17' x L: 0.17' x H: 0')  
CIE Type: Direct

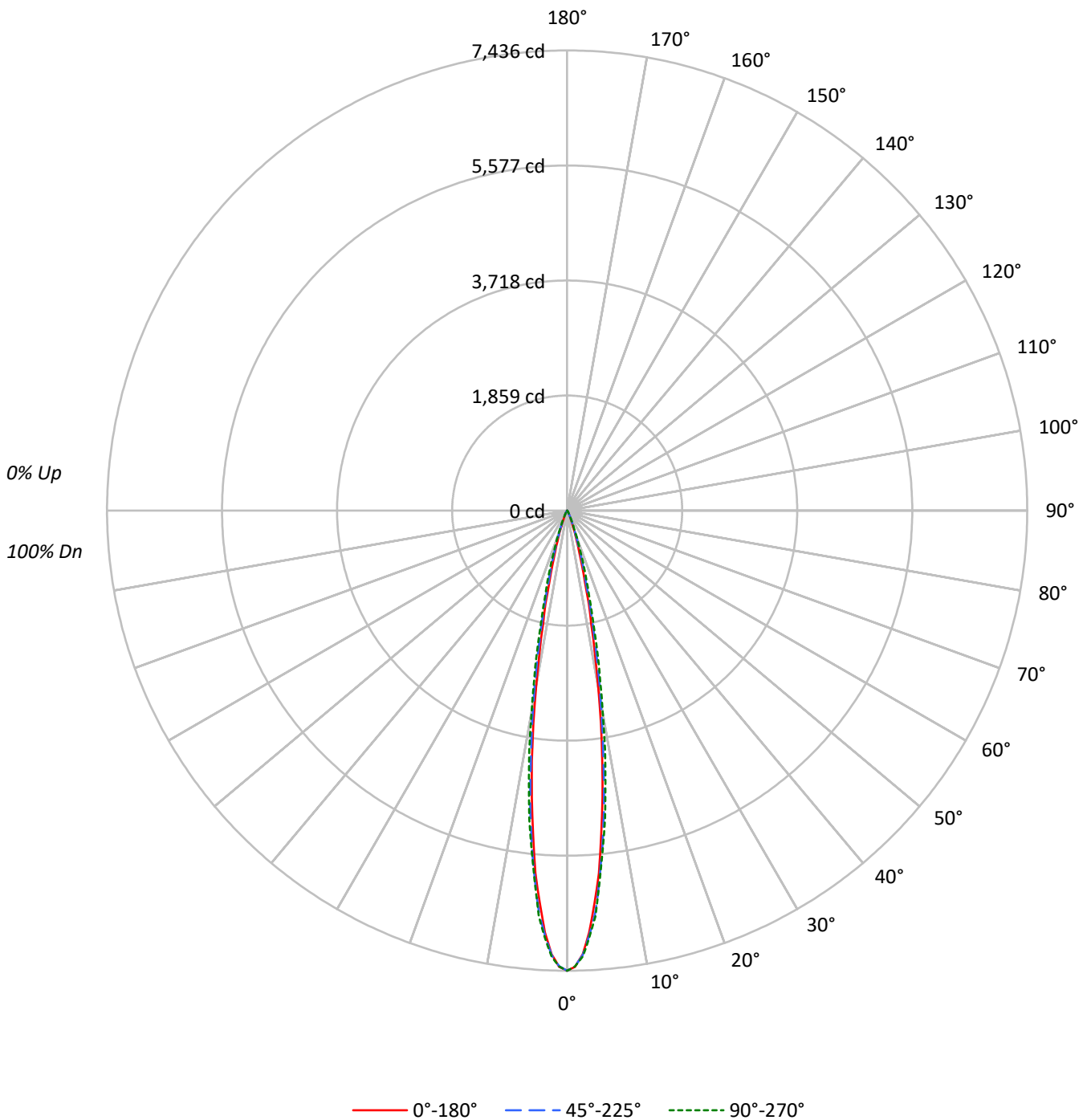
Input Watts (W): 14.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	116	114	112	110	113	111	110	109	108	106	105	104	103	102	101	100	99	98				98
2	112	109	106	104	110	107	105	103	104	103	101	102	100	99	99	98	97	99	98	97	95	
3	109	105	102	100	108	104	101	99	102	99	97	99	98	96	97	96	95	97	96	95	93	
4	107	102	99	96	105	101	98	96	99	97	95	97	95	93	96	94	92	96	94	92	91	
5	104	99	96	93	103	98	95	93	97	94	92	95	93	91	94	92	91	94	92	91	90	
6	102	97	93	91	101	96	93	90	95	92	90	94	91	89	93	90	89	93	90	89	88	
7	100	95	91	89	99	94	91	88	93	90	88	92	89	88	91	89	87	91	89	87	86	
8	98	92	89	87	97	92	89	87	91	88	86	90	88	86	90	87	86	90	87	86	85	
9	96	91	87	85	95	90	87	85	90	87	85	89	86	84	88	86	84	88	86	84	83	
10	94	89	86	83	94	89	85	83	88	85	83	87	85	83	87	84	83	87	84	83	82	

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2881445	2881445	2881445
5°	2289534	2331310	2338506
10°	1131955	1230679	1305715
15°	367350	447945	515582
20°	117607	146226	171834
25°	39207	51478	57421
30°	13692	19464	19867
35°	5677	7900	7900
40°	2833	3743	3743
45°	1534	2028	2521
50°	1688	1688	1688
55°	1284	1284	1892
60°	1472	1472	2170
65°	1742	1742	2567
70°	2153	2153	2153
75°	2845	2845	2845
80°	2008	2008	2008
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	474.3	52.9
10°-20°	338.7	37.8
20°-30°	63.5	7.1
30°-40°	11.2	1.2
40°-50°	3.2	0.4
50°-60°	2.1	0.2
60°-70°	2.1	0.2
70°-80°	1.6	0.2
80°-90°	0.4	0.0
90°-100°	0.0	0.0
100°-110°	0.0	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°	876.5	97.7
0°-40°	887.7	98.9
0°-60°	893.0	99.5
0°-90°	897.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	897.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7436	7436	7436	7436	7436	
5°	5886	5922	5993	6001	6012	460
15°	916	974	1117	1242	1285	292
25°	92	104	120	132	134	50
35°	12	13	17	18	17	9
45°	3	4	4	5	5	3
55°	2	2	2	3	3	2
65°	2	2	2	3	3	2
75°	2	2	2	2	2	2
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7436.0	7436.0	7436.0	7436.0	7436.0
1°	7373.0	7354.5	7365.6	7372.1	7366.5
2°	7174.8	7188.7	7187.8	7189.7	7213.7
3°	6824.9	6834.1	6873.0	6879.5	6901.7
4°	6357.3	6413.8	6513.7	6502.6	6567.5
5°	5886.0	5922.1	5993.4	6000.8	6011.9
6°	5264.7	5305.4	5444.3	5523.0	5506.4
7°	4673.0	4722.1	4890.6	5002.7	5019.3
8°	4086.0	4120.3	4251.8	4396.2	4443.4
9°	3484.2	3563.8	3664.7	3772.1	3908.2
10°	2876.8	2936.0	3127.7	3267.5	3318.4
11°	2338.8	2429.6	2618.5	2726.8	2800.9
12°	1873.1	1960.1	2141.6	2309.2	2370.3
13°	1552.7	1562.9	1738.9	1884.2	1912.9
14°	1176.8	1218.5	1393.5	1525.0	1564.8
15°	915.7	974.1	1116.6	1241.6	1285.2
17.5°	506.5	556.5	627.8	720.4	765.7
20°	285.2	306.5	354.6	408.3	416.7
22.5°	160.2	175.9	200.0	229.6	232.4
25°	91.7	103.7	120.4	132.4	134.3
27.5°	52.8	59.3	70.4	76.9	75.9
30°	30.6	34.3	43.5	46.3	44.4
32.5°	18.5	21.3	26.9	27.8	27.8
35°	12.0	13.0	16.7	17.6	16.7
37.5°	7.4	8.3	11.1	11.1	11.1
40°	5.6	5.6	7.4	7.4	7.4
42.5°	3.7	4.6	5.6	5.6	5.6
45°	2.8	3.7	3.7	4.6	4.6
47.5°	2.8	2.8	2.8	3.7	3.7
50°	2.8	2.8	2.8	2.8	2.8
52.5°	1.9	1.9	2.8	2.8	2.8
55°	1.9	1.9	1.9	2.8	2.8
57.5°	1.9	1.9	1.9	2.8	2.8
60°	1.9	1.9	1.9	2.8	2.8
62.5°	1.9	1.9	1.9	2.8	2.8
65°	1.9	1.9	1.9	2.8	2.8
67.5°	1.9	1.9	1.9	1.9	1.9
70°	1.9	1.9	1.9	1.9	1.9
72.5°	1.9	1.9	1.9	1.9	1.9
75°	1.9	1.9	1.9	1.9	1.9
77.5°	0.9	0.9	0.9	0.9	0.9
80°	0.9	0.9	0.9	0.9	0.9
82.5°	0.9	0.9	0.9	0.9	0.9
85°	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)