

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: P358670

Luminaire Tested: **HL36AR13NFLD2WED010TL3PIN2GMWWB**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P358670  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1908-462-15)  
Test Lab: INNOVATION CENTER (G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: HL36AR13NFLD2WED010TL3PIN2GMWWB  
Description: HL3 13W Round, Narrow Flood 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: 903.1 lumens  
Efficiency: N/A  
Efficacy: 62.7 lumens/watt  
Spacing Criteria (0/90/45): 0.42 / 0.41 / 0.4  
Luminous Opening: Rectangular (W 0.17' x L: 0.17' x H: 0')  
CIE Type: Direct

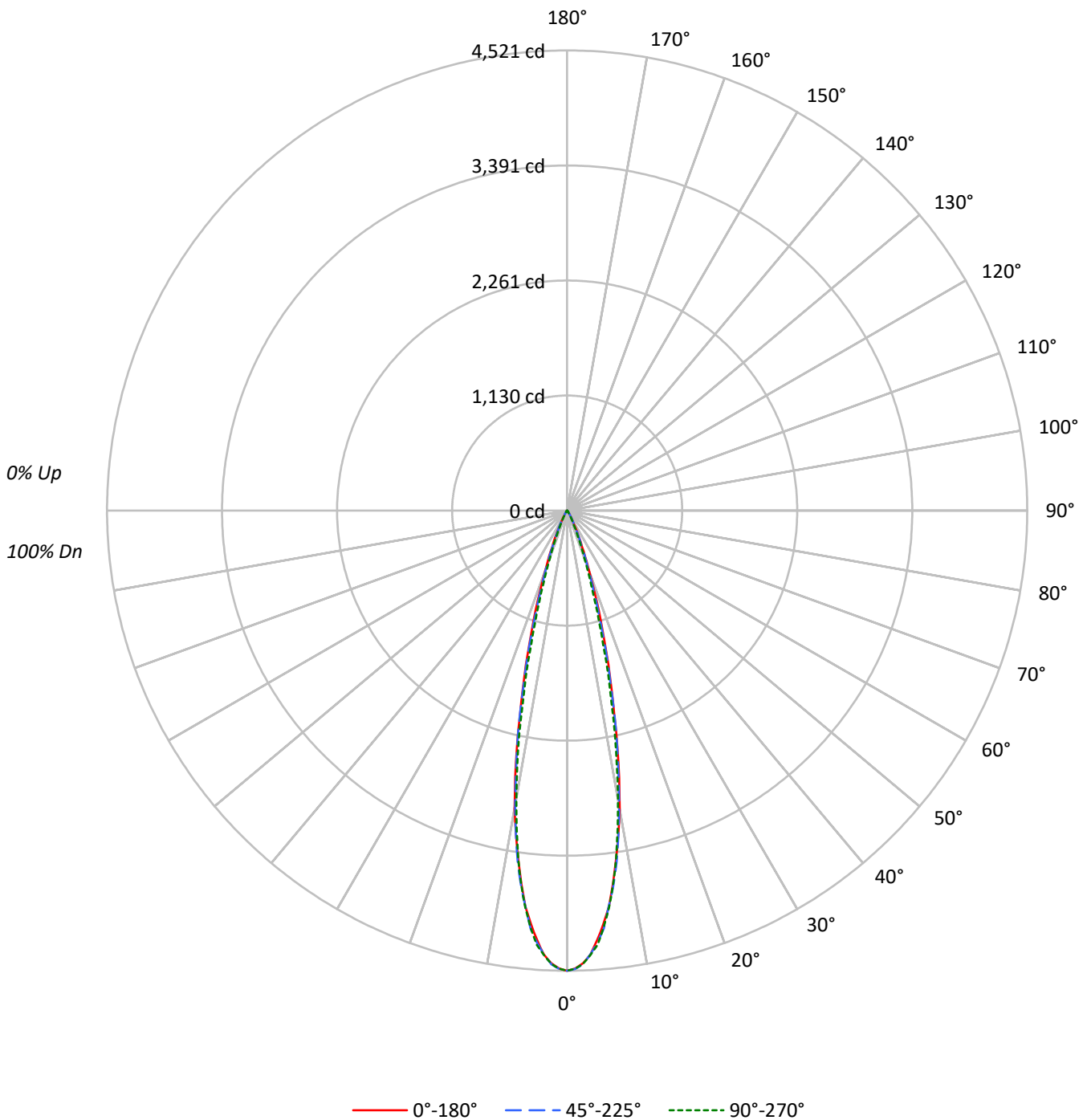
Input Watts (W): 14.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	100	100	
1	115	113	111	110	113	111	109	108	107	106	105	103	102	101	100	99	99	97	97	97	97	
2	112	108	105	103	110	106	104	102	103	101	99	100	99	97	98	97	95	94	94	94	94	
3	108	104	100	98	106	102	99	97	100	97	95	98	96	94	96	94	92	91	91	91	91	
4	105	100	96	93	104	99	96	93	97	94	92	95	93	91	93	91	90	89	89	89	89	
5	102	97	93	90	101	96	92	89	94	91	89	93	90	88	91	89	87	86	86	86	86	
6	100	94	90	87	98	93	89	87	92	88	86	90	88	86	89	87	85	84	84	84	84	
7	97	91	87	84	96	90	87	84	89	86	84	88	85	83	87	85	83	82	82	82	82	
8	95	88	84	82	94	88	84	82	87	84	81	86	83	81	85	83	81	80	80	80	80	
9	92	86	82	80	92	86	82	80	85	82	79	84	81	79	83	81	79	78	78	78	78	
10	90	84	80	78	89	84	80	78	83	80	77	82	79	77	82	79	77	76	76	76	76	

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

	0°	45°	90°
0°	1751924	1751924	1751924
5°	1587348	1603568	1599601
10°	1170280	1157138	1131247
15°	626867	611261	550644
20°	260658	243462	203710
25°	94704	91540	63792
30°	32350	32753	21164
35°	11826	12725	8326
40°	5160	5615	3743
45°	3069	3069	2028
50°	2231	1688	1688
55°	1892	1892	1284
60°	2170	1472	1472
65°	2567	1742	1742
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°	353.9	39.2
10°-20°	414.0	45.8
20°-30°	106.9	11.8
30°-40°	17.8	2.0
40°-50°	4.2	0.5
50°-60°	2.2	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°	874.8	96.9
0°-40°	892.6	98.8
0°-60°	899.0	99.5
0°-90°	903.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	903.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4521	4521	4521	4521	4521	
5°	4081	4092	4122	4130	4112	353
15°	1563	1547	1524	1428	1373	430
25°	222	225	214	173	149	118
35°	25	29	27	21	18	19
45°	6	6	6	5	4	5
55°	3	3	3	2	2	3
65°	3	3	2	2	2	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°	4521.1	4521.1	4521.1	4521.1	4521.1
1°	4499.7	4503.4	4504.4	4505.3	4501.6
2°	4450.6	4450.6	4459.9	4459.0	4456.2
3°	4369.1	4373.7	4365.3	4381.1	4371.8
4°	4231.9	4243.9	4256.0	4259.7	4277.3
5°	4080.8	4091.9	4122.5	4129.9	4112.3
6°	3913.1	3937.2	3911.2	3937.2	3926.0
7°	3690.6	3698.0	3716.6	3720.3	3706.4
8°	3457.1	3494.1	3487.6	3464.5	3455.2
9°	3212.4	3220.7	3220.7	3196.6	3167.0
10°	2974.2	2955.6	2940.8	2906.5	2875.0
11°	2673.0	2673.9	2644.2	2624.8	2566.4
12°	2374.5	2390.3	2366.2	2281.8	2270.7
13°	2058.5	2085.4	2070.5	1989.9	1937.1
14°	1799.9	1813.8	1765.6	1712.8	1672.9
15°	1562.6	1546.9	1523.7	1428.2	1372.6
16°	1322.6	1314.2	1275.3	1197.5	1141.8
17°	1125.2	1124.2	1056.6	978.7	938.9
18°	940.7	923.1	877.7	818.4	756.3
19°	771.1	771.1	726.6	656.2	616.3
20°	632.1	633.0	590.4	535.7	494.0
22.5°	381.9	389.3	355.9	304.9	273.4
25°	221.5	225.2	214.1	173.3	149.2
27.5°	124.2	128.8	127.0	97.3	84.3
30°	72.3	75.1	73.2	56.5	47.3
32.5°	43.6	45.4	43.6	33.4	28.7
35°	25.0	28.7	26.9	21.3	17.6
37.5°	15.8	17.6	16.7	13.0	11.1
40°	10.2	11.1	11.1	8.3	7.4
42.5°	7.4	7.4	7.4	5.6	4.6
45°	5.6	5.6	5.6	4.6	3.7
47.5°	4.6	4.6	3.7	3.7	2.8
50°	3.7	3.7	2.8	2.8	2.8
52.5°	2.8	2.8	2.8	1.9	1.9
55°	2.8	2.8	2.8	1.9	1.9
57.5°	2.8	2.8	1.9	1.9	1.9
60°	2.8	2.8	1.9	1.9	1.9
62.5°	2.8	2.8	1.9	1.9	1.9
65°	2.8	2.8	1.9	1.9	1.9
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



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**CANDELA DISTRIBUTION (continued):**

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

(END OF REPORT)