

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: P358783

Luminaire Tested: **HL36AR13FLD2WED010TL3PINMWWB-TILTED 30D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P358783  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1908-462-22)  
Test Lab: INNOVATION CENTER (G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: HL36AR13FLD2WED010TL3PINMWWB-TILTED 30D  
Description: HL3 13W Round tilted 30D, Flood optic with pin-hole trim, No Lens, Matte White  
Light Source: (1) 3100K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 827.0 lumens  
Efficiency: N/A  
Efficacy: 57.4 lumens/watt  
Spacing Criteria (0/90/45): 2.25 / 0.54 / 1.21  
Luminous Opening: Rectangular (W 0.17' x L: 0.17' x H: 0')  
CIE Type: Direct

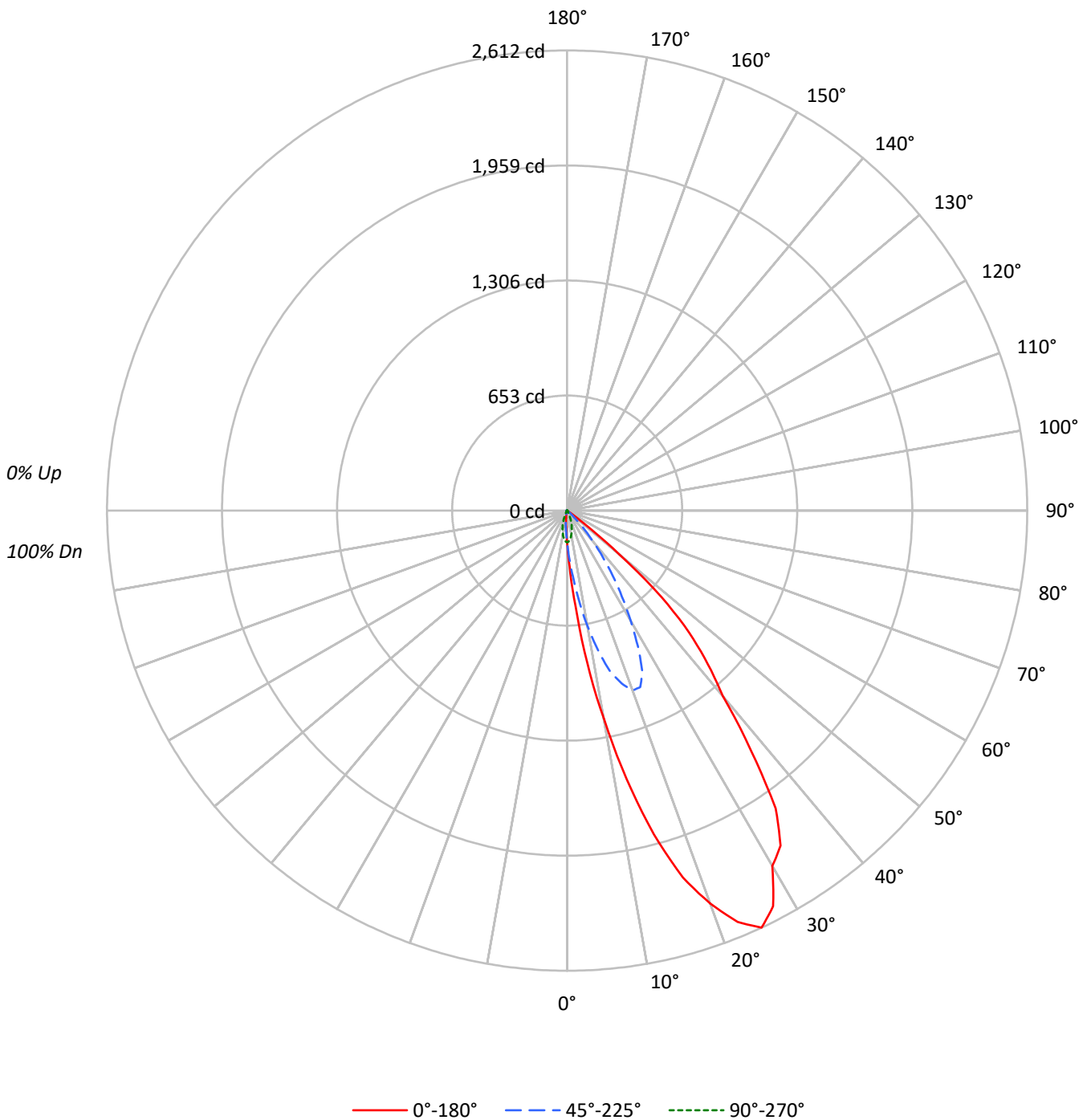
Input Watts (W): 14.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	113	110	107	104	110	107	105	103	103	101	99	100	98	96	96	95	94	92					92			
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	87	85	84					84			
3	100	92	87	82	98	91	86	82	88	84	80	86	82	79	83	80	78	76					76			
4	94	85	79	74	92	84	78	73	82	76	72	79	75	72	77	74	71	69					69			
5	88	78	71	67	86	77	71	66	75	70	66	74	69	65	72	68	64	63					63			
6	82	72	65	60	81	71	65	60	70	64	60	68	63	59	67	62	59	57					57			
7	77	67	60	55	76	66	59	55	64	59	54	63	58	54	62	57	54	52					52			
8	73	62	55	50	71	61	54	50	60	54	50	59	53	49	58	53	49	48					48			
9	68	57	50	46	67	57	50	46	56	50	46	55	49	45	54	49	45	44					44			
10	64	53	46	42	63	53	46	42	52	46	42	51	46	42	50	45	42	40					40			

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

	0°	90°	180°
0°	69982	69982	69982
5°	211488	65232	25945
10°	472724	54300	10191
15°	762903	40518	4092
20°	978632	25979	783
25°	1116868	13468	0
30°	1042414	5817	0
35°	975854	1750	0
40°	694423	0	0
45°	537595	0	0
50°	236194	0	0
55°	1284	608	608
60°	697	697	1472
65°	825	825	2567
70°	1020	2153	3172
75°	1347	2845	6887
80°	2008	4240	12497
85°	0	4001	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	26.8	3.2
10°-20°	143.7	17.4
20°-30°	269.1	32.5
30°-40°	252.2	30.5
40°-50°	120.1	14.5
50°-60°	10.2	1.2
60°-70°	1.4	0.2
70°-80°	2.3	0.3
80°-90°	1.2	0.1
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°	439.6	53.2
0°-40°	691.8	83.7
0°-60°	822.1	99.4
0°-90°	827.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	827.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	181	181	181	181	181	
5°	544	374	168	87	67	74
15°	1902	948	101	20	10	544
25°	2612	1010	32	2	0	1160
35°	2063	448	4	0	0	1226
45°	981	78	0	0	0	721
55°	2	1	1	1	1	69
65°	1	1	1	2	3	1
75°	1	1	2	3	5	1
85°	0	1	1	1	0	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	45°	67.5°	90°	112.5°	135°
0°	180.6	180.6	180.6	180.6	180.6	180.6	180.6	180.6	180.6	180.6	180.6
2.5°	314.9	314.0	323.3	308.5	305.7	304.8	265.9	216.8	176.0	145.4	124.1
5°	543.7	544.7	529.9	518.7	499.3	497.4	374.2	253.8	167.7	115.8	87.1
7.5°	872.6	845.7	842.9	821.6	785.5	754.0	512.3	286.2	154.7	91.7	60.2
10°	1201.4	1212.5	1161.6	1148.6	1079.2	1055.1	666.9	304.8	138.0	71.3	40.8
12.5°	1561.8	1555.3	1512.7	1475.6	1400.6	1353.3	816.1	309.4	120.4	53.7	28.7
15°	1901.7	1886.9	1846.1	1773.0	1694.2	1619.2	948.5	299.2	101.0	39.8	19.5
17.5°	2184.3	2165.7	2119.4	2043.5	1939.7	1874.9	1029.1	275.1	81.5	28.7	13.9
20°	2373.2	2360.3	2317.6	2234.3	2131.5	2060.1	1086.6	233.4	63.0	19.5	8.3
22.5°	2527.9	2502.9	2449.2	2366.7	2250.0	2184.3	1084.7	186.2	45.4	13.0	4.6
25°	2612.2	2592.8	2540.0	2452.9	2331.5	2252.8	1009.7	140.8	31.5	8.3	1.9
27.5°	2532.5	2514.9	2502.0	2452.0	2351.0	2271.3	868.9	103.7	20.4	5.6	0.9
30°	2329.7	2317.6	2299.1	2263.9	2199.1	2148.1	717.9	75.0	13.0	2.8	0.0
32.5°	2254.7	2242.6	2203.7	2133.3	2018.4	1954.5	578.0	52.8	8.3	0.9	0.0
35°	2062.9	2033.3	2024.9	1966.6	1876.7	1809.1	448.3	35.2	3.7	0.0	0.0
37.5°	1712.8	1697.9	1663.7	1619.2	1565.5	1498.8	329.8	19.5	0.9	0.0	0.0
40°	1372.8	1363.5	1328.3	1257.0	1179.2	1132.9	221.4	7.4	0.0	0.0	0.0
42.5°	1182.9	1160.7	1115.3	1017.1	893.9	826.3	138.9	1.9	0.0	0.0	0.0
45°	981.0	973.6	910.6	817.9	700.3	641.0	77.8	0.0	0.0	0.0	0.0
47.5°	729.9	727.2	687.3	613.2	510.4	444.6	35.2	0.0	0.0	0.0	0.0
50°	391.8	385.3	382.6	332.5	265.9	222.3	10.2	0.0	0.0	0.0	0.0
52.5°	120.4	121.3	103.7	74.1	55.6	48.2	1.9	0.0	0.9	0.9	0.9
55°	1.9	2.8	2.8	2.8	3.7	4.6	0.9	0.9	0.9	0.9	0.9
57.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
60°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
62.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9
65°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9
67.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	1.9
70°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	2.8
72.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	2.8
75°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	2.8	2.8
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	2.8	3.7
80°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	2.8	3.7
82.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	1.9	1.9	2.8
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
90°	0.0	0.0	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):**

	157.5°	180°
0°	180.6	180.6
2.5°	114.9	110.2
5°	72.3	66.7
7.5°	46.3	42.6
10°	29.6	25.9
12.5°	19.5	16.7
15°	13.0	10.2
17.5°	7.4	5.6
20°	3.7	1.9
22.5°	0.0	0.0
25°	0.0	0.0
27.5°	0.0	0.0
30°	0.0	0.0
32.5°	0.0	0.0
35°	0.0	0.0
37.5°	0.0	0.0
40°	0.0	0.0
42.5°	0.0	0.0
45°	0.0	0.0
47.5°	0.0	0.0
50°	0.0	0.0
52.5°	0.0	0.9
55°	0.9	0.9
57.5°	0.9	1.9
60°	1.9	1.9
62.5°	1.9	2.8
65°	1.9	2.8
67.5°	2.8	2.8
70°	2.8	2.8
72.5°	2.8	3.7
75°	3.7	4.6
77.5°	4.6	5.6
80°	4.6	5.6
82.5°	4.6	5.6
85°	0.0	0.0
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)