

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: P358672

Luminaire Tested: **HL36SAR13NFLD2WED010TLS3R2GMW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P358672  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1908-462-11)  
Test Lab: INNOVATION CENTER (G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: HL36SAR13NFLD2WED010TLS3R2GMW  
Description: HL3 13W Square, Narrow Flood optic with reflector trim, Lensed, Matte White  
Light Source: (1) 3100K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 992.0 lumens  
Efficiency: N/A  
Efficacy: 68.9 lumens/watt  
Spacing Criteria (0/90/45): 0.43 / 0.42 / 0.42  
Luminous Opening: Rectangular (W 0.27' x L: 0.27' x H: 0')  
CIE Type: Direct

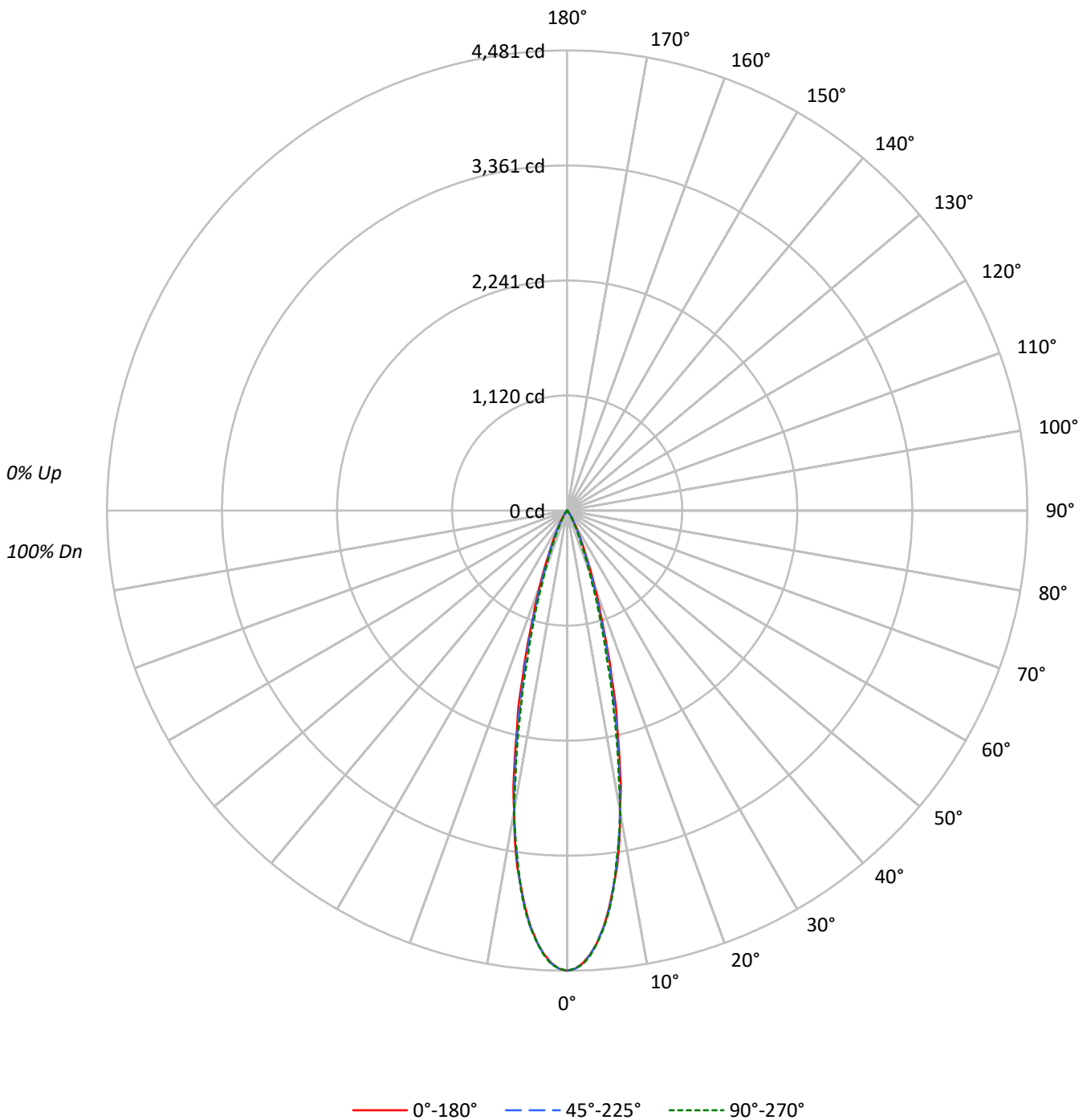
Input Watts (W): 14.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	115	113	111	109	113	111	109	108	107	106	104	103	102	101	100	99	98	97
2	111	108	105	102	109	106	103	101	103	101	99	100	98	97	97	96	95	93
3	108	103	100	97	106	102	99	96	99	97	94	97	95	93	95	93	92	90
4	104	99	95	92	103	98	94	92	96	93	91	94	92	90	93	90	89	87
5	101	96	91	88	100	95	91	88	93	90	87	92	89	87	90	88	86	85
6	98	92	88	85	97	92	88	85	90	87	84	89	86	84	88	85	83	82
7	96	89	85	82	95	89	85	82	88	84	82	87	84	81	86	83	81	80
8	93	87	83	80	92	86	82	80	85	82	79	84	81	79	84	81	79	78
9	91	84	80	77	90	84	80	77	83	79	77	82	79	77	81	79	77	76
10	88	82	78	75	88	81	78	75	81	77	75	80	77	75	80	77	75	74

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

	0°	45°	90°
0°	657555	657555	657555
5°	599612	600437	600850
10°	442277	442009	444214
15°	253894	243897	225043
20°	120512	111111	98946
25°	52202	49498	39605
30°	22282	21977	16792
35°	8957	10462	6467
40°	3735	4961	2663
45°	1536	2304	1162
50°	845	1050	639
55°	716	716	486
60°	558	558	558
65°	660	660	313
70°	386	386	386
75°	510	510	510
80°	0	0	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	353.0	35.6
10°-20°	443.2	44.7
20°-30°	148.6	15.0
30°-40°	35.4	3.6
40°-50°	7.5	0.8
50°-60°	2.4	0.2
60°-70°	1.4	0.1
70°-80°	0.6	0.1
80°-90°	0.0	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°	944.8	95.2
0°-40°	980.2	98.8
0°-60°	990.0	99.8
0°-90°	992.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	992.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4481	4481	4481	4481	4481	
5°	4070	4063	4076	4085	4079	354
15°	1671	1659	1605	1540	1481	462
25°	322	318	306	263	245	163
35°	50	56	58	44	36	36
45°	7	9	11	7	6	7
55°	3	3	3	2	2	2
65°	2	2	2	1	1	2
75°	1	1	1	1	1	1
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°	4480.9	4480.9	4480.9	4480.9	4480.9
1°	4462.4	4462.4	4462.4	4462.4	4460.5
2°	4407.7	4410.5	4412.4	4414.2	4420.7
3°	4324.4	4328.1	4329.9	4329.9	4334.5
4°	4212.3	4229.9	4207.6	4220.6	4219.7
5°	4070.5	4063.1	4076.1	4085.3	4078.9
6°	3895.4	3886.2	3907.5	3896.4	3914.0
7°	3694.4	3691.6	3694.4	3697.2	3713.9
8°	3498.9	3499.9	3473.9	3476.7	3451.7
9°	3253.5	3233.1	3222.0	3204.4	3227.5
10°	2968.1	2974.6	2966.3	2957.0	2981.1
11°	2743.0	2735.6	2680.9	2672.6	2630.9
12°	2448.4	2431.8	2394.7	2365.1	2342.8
13°	2160.3	2154.8	2114.9	2100.1	2028.8
14°	1961.2	1928.7	1842.6	1795.3	1785.1
15°	1671.2	1659.1	1605.4	1539.6	1481.3
16°	1457.2	1445.2	1390.5	1316.4	1293.2
17°	1238.6	1234.9	1186.7	1120.9	1079.2
18°	1051.4	1046.8	993.1	930.1	917.1
19°	920.8	891.2	839.3	778.2	743.9
20°	771.7	750.4	711.5	660.5	633.6
22.5°	493.8	493.8	462.3	413.2	385.4
25°	322.4	317.7	305.7	263.1	244.6
27.5°	211.2	207.5	198.2	172.3	156.6
30°	131.5	135.3	129.7	109.3	99.1
32.5°	82.4	88.0	87.1	71.3	60.2
35°	50.0	55.6	58.4	44.5	36.1
37.5°	31.5	35.2	38.9	26.9	21.3
40°	19.5	22.2	25.9	16.7	13.9
42.5°	13.0	14.8	16.7	11.1	8.3
45°	7.4	9.3	11.1	7.4	5.6
47.5°	5.6	6.5	7.4	4.6	3.7
50°	3.7	4.6	4.6	2.8	2.8
52.5°	2.8	3.7	3.7	2.8	1.9
55°	2.8	2.8	2.8	1.9	1.9
57.5°	1.9	2.8	1.9	1.9	1.9
60°	1.9	1.9	1.9	1.9	1.9
62.5°	1.9	1.9	1.9	1.9	0.9
65°	1.9	1.9	1.9	0.9	0.9
67.5°	0.9	0.9	0.9	0.9	0.9
70°	0.9	0.9	0.9	0.9	0.9
72.5°	0.9	0.9	0.9	0.9	0.9
75°	0.9	0.9	0.9	0.9	0.9
77.5°	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
82.5°	0.0	0.0	0.0	0.0	0.0
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)