

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: P358671

Luminaire Tested: **HL36SAR13NFLD2WED010TLS3PINMWWB**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P358671  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1908-462-13)  
Test Lab: INNOVATION CENTER (G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: HL36SAR13NFLD2WED010TLS3PINMWWB  
Description: HL3 13W Square, Narrow 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: 963.9 lumens  
Efficiency: N/A  
Efficacy: 66.9 lumens/watt  
Spacing Criteria (0/90/45): 0.42 / 0.42 / 0.39  
Luminous Opening: Rectangular (W 0.17' x L: 0.17' x H: 0')  
CIE Type: Direct

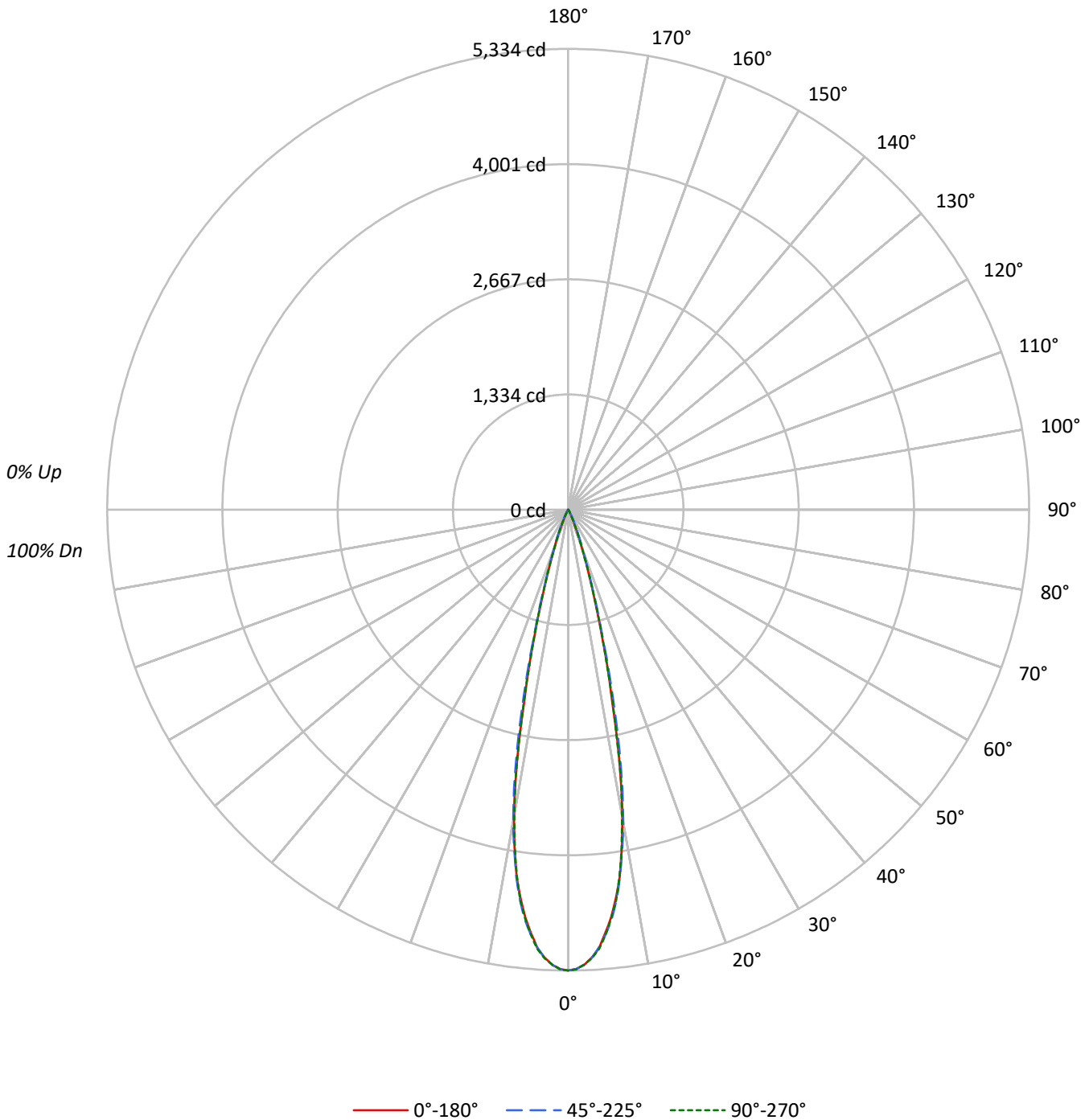
Input Watts (W): 14.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	115	113	112	110	113	111	110	108	107	106	105	104	103	102	100	100	99	97
2	112	109	106	104	110	107	105	103	104	102	100	101	100	98	99	97	96	95
3	109	105	102	99	107	104	101	98	101	99	97	99	97	95	97	95	94	93
4	106	101	98	95	105	100	97	95	98	96	94	97	94	93	95	93	92	90
5	104	98	95	92	102	98	94	92	96	93	91	95	92	90	93	91	89	88
6	101	96	92	89	100	95	92	89	94	91	88	93	90	88	91	89	87	86
7	99	93	90	87	98	93	89	87	92	89	86	91	88	86	90	87	86	85
8	97	91	87	85	96	90	87	85	90	87	84	89	86	84	88	86	84	83
9	95	89	85	83	94	88	85	83	88	85	83	87	84	82	86	84	82	81
10	93	87	83	81	92	87	83	81	86	83	81	85	83	81	85	82	80	80

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

	0°	45°	90°
0°	2066961	2066961	2066961
5°	1914363	1922259	1922609
10°	1421790	1443274	1413409
15°	597501	631640	610499
20°	186555	199875	183504
25°	42713	72001	43910
30°	13647	19867	13647
35°	4399	7001	4825
40°	1416	2833	961
45°	493	1041	493
50°	543	543	543
55°	608	608	608
60°	697	697	697
65°	825	825	825
70°	1020	1020	1020
75°	1347	1347	1347
80°	2008	2008	2008
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	430.7	44.7
10°-20°	442.9	46.0
20°-30°	76.9	8.0
30°-40°	9.1	0.9
40°-50°	1.2	0.1
50°-60°	0.8	0.1
60°-70°	0.9	0.1
70°-80°	1.0	0.1
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°	950.6	98.6
0°-40°	959.7	99.6
0°-60°	961.7	99.8
0°-90°	963.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	963.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5334	5334	5334	5334	5334	
5°	4922	4942	4942	4952	4943	430
15°	1489	1540	1574	1569	1522	432
25°	100	135	168	130	103	67
35°	9	13	15	13	10	7
45°	1	1	2	1	1	1
55°	1	1	1	1	1	1
65°	1	1	1	1	1	1
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°	5334.1	5334.1	5334.1	5334.1	5334.1
1°	5315.5	5316.5	5315.5	5312.8	5322.0
2°	5273.9	5272.1	5272.1	5266.5	5268.4
3°	5192.5	5189.7	5195.3	5187.9	5199.9
4°	5088.9	5085.2	5081.5	5083.4	5100.0
5°	4921.5	4941.8	4941.8	4952.0	4942.7
6°	4745.7	4767.9	4779.0	4767.9	4757.7
7°	4523.7	4542.2	4564.4	4553.3	4551.4
8°	4286.9	4278.5	4301.7	4287.8	4274.8
9°	3963.1	3981.6	3995.4	3989.0	3948.3
10°	3613.4	3602.3	3668.0	3609.7	3592.1
11°	3196.2	3195.2	3286.8	3197.1	3204.5
12°	2723.5	2785.4	2862.2	2773.4	2721.6
13°	2248.9	2323.8	2407.1	2336.8	2285.9
14°	1874.2	1888.1	1976.9	1917.7	1852.9
15°	1489.4	1540.3	1574.5	1568.9	1521.8
16°	1196.1	1217.4	1254.4	1226.7	1202.6
17°	939.9	974.1	971.3	976.9	949.1
18°	738.2	766.9	781.7	769.7	743.8
19°	560.6	605.9	596.7	603.2	557.8
20°	452.4	479.2	484.7	475.5	445.0
22.5°	240.5	270.1	282.2	264.6	218.3
25°	99.9	135.1	168.4	130.4	102.7
27.5°	47.2	58.3	92.5	61.1	49.0
30°	30.5	32.4	44.4	32.4	30.5
32.5°	19.4	22.2	23.1	22.2	18.5
35°	9.3	13.0	14.8	13.0	10.2
37.5°	4.6	6.5	9.3	7.4	4.6
40°	2.8	3.7	5.6	3.7	1.9
42.5°	0.9	0.9	3.7	1.9	0.9
45°	0.9	0.9	1.9	0.9	0.9
47.5°	0.9	0.9	0.9	0.9	0.9
50°	0.9	0.9	0.9	0.9	0.9
52.5°	0.9	0.9	0.9	0.9	0.9
55°	0.9	0.9	0.9	0.9	0.9
57.5°	0.9	0.9	0.9	0.9	0.9
60°	0.9	0.9	0.9	0.9	0.9
62.5°	0.9	0.9	0.9	0.9	0.9
65°	0.9	0.9	0.9	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°	0.9	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)