

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: P358830

Luminaire Tested: **HL36AR13WFLD2WED010TL3PIN2GMWWB-TILTED 30D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P358830  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1908-462-32)  
Test Lab: INNOVATION CENTER (G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: HL36AR13WFLD2WED010TL3PIN2GMWWB-TILTED 30D  
Description: HL3 13W Round tilted 30D, Wide 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: 744.0 lumens  
Efficiency: N/A  
Efficacy: 51.7 lumens/watt  
Spacing Criteria (0/90/45): 1.45 / 0.58 / 1.15  
Luminous Opening: Rectangular (W 0.17' x L: 0.17' x H: 0')  
CIE Type: Direct

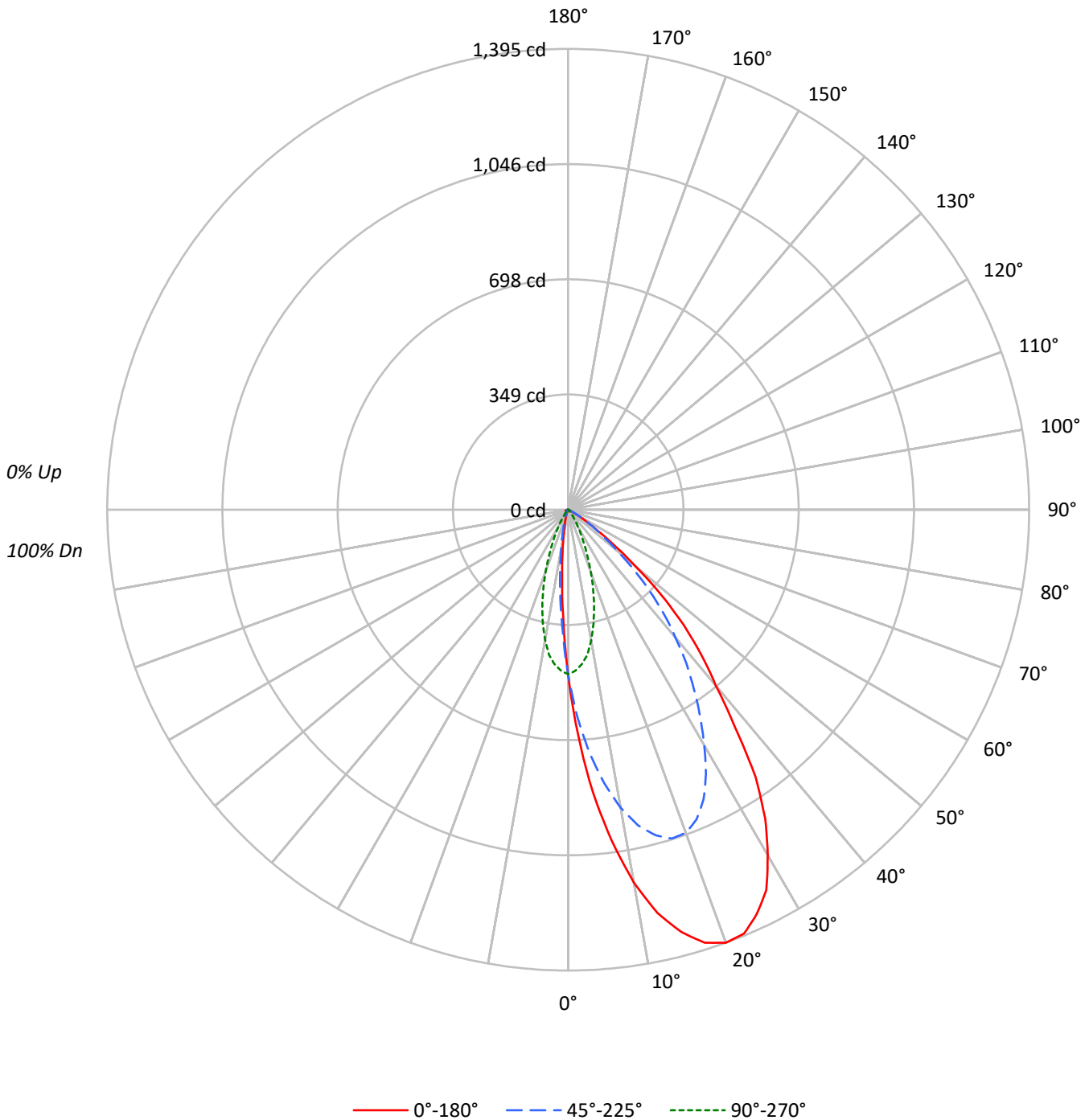
Input Watts (W): 14.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	107	104	110	107	105	102	103	101	99	99	98	96	96	95	94	92					92			
2	106	100	96	92	104	99	94	91	95	92	89	92	89	87	89	87	85	83					83			
3	99	92	86	82	97	91	85	81	88	83	80	85	82	78	83	80	77	76					76			
4	93	85	78	73	91	83	78	73	81	76	72	79	75	71	77	73	70	69					69			
5	88	78	71	66	86	77	71	66	75	70	65	73	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	60	55	65	59	55	63	58	54	62	58	54	52					52			
8	73	62	55	51	72	61	55	50	60	54	50	59	54	50	58	53	50	48					48			
9	69	58	51	47	68	57	51	47	56	50	46	55	50	46	54	50	46	44					44			
10	65	54	48	43	64	54	47	43	53	47	43	52	47	43	51	46	43	41					41			

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

	0°	90°	180°
0°	192858	192858	192858
5°	334211	182782	80752
10°	451122	157902	30258
15°	530947	121193	12637
20°	575212	81773	4948
25°	577375	48357	1967
30°	540380	25728	1253
35°	467799	12299	1325
40°	351613	5615	1872
45°	271209	3069	2521
50°	159211	2231	3918
55°	67018	1892	4999
60°	20150	2170	6432
65°	5960	2567	7610
70°	3172	2153	8384
75°	1347	2845	9732
80°	2008	2008	10265
85°	0	4001	4001



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	48.4	6.5
10°-20°	145.0	19.5
20°-30°	204.4	27.5
30°-40°	186.7	25.1
40°-50°	112.8	15.2
50°-60°	36.0	4.8
60°-70°	6.9	0.9
70°-80°	2.9	0.4
80°-90°	0.9	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°	397.8	53.5
0°-40°	584.5	78.6
0°-60°	733.3	98.6
0°-90°	744.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	744.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	498	498	498	498	498	
5°	859	739	470	268	208	90
15°	1324	1020	302	56	32	373
25°	1350	968	113	12	5	615
35°	989	664	26	3	3	603
45°	495	350	6	4	5	373
55°	99	94	3	5	7	103
65°	6	10	3	5	8	9
75°	1	2	2	4	6	1
85°	0	1	1	1	1	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°	497.7	497.7	497.7	497.7	497.7	497.7	497.7	497.7	497.7	497.7	497.7
2.5°	681.2	684.0	675.7	669.2	664.5	672.0	625.6	561.7	488.4	425.4	372.6
5°	859.2	853.6	846.2	836.9	826.7	824.9	738.7	610.8	469.9	350.3	267.9
7.5°	1011.2	1010.2	1003.8	981.5	966.7	960.2	834.1	647.9	443.0	279.0	185.4
10°	1146.5	1139.1	1135.4	1115.0	1098.3	1080.7	916.6	665.5	401.3	216.0	123.3
12.5°	1251.2	1244.7	1236.4	1221.6	1191.9	1183.6	978.7	668.2	353.1	161.3	82.5
15°	1323.5	1323.5	1313.3	1295.7	1267.9	1251.2	1020.4	655.3	302.1	117.7	56.5
17.5°	1374.5	1371.7	1365.2	1342.0	1316.1	1302.2	1043.6	625.6	250.2	84.3	38.9
20°	1394.9	1390.2	1384.7	1368.9	1342.0	1326.3	1040.8	580.2	198.3	59.3	26.0
22.5°	1389.3	1384.7	1379.1	1363.4	1343.0	1327.2	1014.9	528.3	152.0	42.6	18.5
25°	1350.4	1350.4	1349.5	1340.2	1324.4	1307.8	968.5	461.6	113.1	29.7	12.0
27.5°	1298.5	1299.4	1299.4	1298.5	1278.1	1259.6	902.7	400.4	81.6	21.3	7.4
30°	1207.7	1205.8	1219.7	1221.6	1206.7	1201.2	823.0	334.6	57.5	14.8	4.6
32.5°	1109.4	1113.1	1114.0	1126.1	1119.6	1113.1	743.3	268.8	39.9	10.2	3.7
35°	988.9	1000.0	1001.0	1016.7	1022.3	1005.6	663.6	205.8	26.0	7.4	2.8
37.5°	828.6	841.6	862.9	876.8	884.2	879.6	587.6	152.0	16.7	4.6	2.8
40°	695.1	705.3	710.9	720.1	728.5	734.0	505.1	106.6	11.1	3.7	2.8
42.5°	596.9	595.0	600.6	608.0	609.9	609.9	430.0	71.4	7.4	3.7	2.8
45°	494.9	494.9	505.1	511.6	513.5	506.0	350.3	46.3	5.6	2.8	3.7
47.5°	380.9	395.8	394.8	402.2	410.6	415.2	271.6	29.7	3.7	2.8	3.7
50°	264.1	273.4	275.3	289.2	299.4	307.7	195.6	16.7	3.7	2.8	3.7
52.5°	172.4	168.7	181.7	182.6	192.8	204.8	137.2	9.3	2.8	3.7	4.6
55°	99.2	99.2	102.0	108.4	114.9	122.3	93.6	5.6	2.8	3.7	4.6
57.5°	52.8	51.9	55.6	59.3	63.0	69.5	61.2	3.7	2.8	3.7	4.6
60°	26.0	26.9	27.8	31.5	34.3	37.1	36.1	3.7	2.8	3.7	4.6
62.5°	12.0	12.0	13.0	14.8	17.6	19.5	20.4	2.8	2.8	3.7	4.6
65°	6.5	6.5	6.5	7.4	8.3	9.3	10.2	2.8	2.8	3.7	4.6
67.5°	3.7	3.7	3.7	4.6	4.6	4.6	5.6	2.8	2.8	3.7	4.6
70°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	1.9	1.9	2.8	4.6
72.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.8	4.6
75°	0.9	0.9	0.9	0.9	1.9	1.9	1.9	1.9	1.9	2.8	3.7
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	3.7
80°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	2.8
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	1.9
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	0.0
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°	497.7	497.7
2.5°	344.8	335.5
5°	222.4	207.6
7.5°	140.0	128.8
10°	89.9	76.9
12.5°	56.5	49.1
15°	37.1	31.5
17.5°	25.0	21.3
20°	15.8	12.0
22.5°	9.3	7.4
25°	5.6	4.6
27.5°	3.7	2.8
30°	2.8	2.8
32.5°	2.8	2.8
35°	2.8	2.8
37.5°	2.8	2.8
40°	2.8	3.7
42.5°	3.7	3.7
45°	3.7	4.6
47.5°	4.6	5.6
50°	5.6	6.5
52.5°	5.6	6.5
55°	6.5	7.4
57.5°	6.5	8.3
60°	7.4	8.3
62.5°	7.4	8.3
65°	7.4	8.3
67.5°	6.5	8.3
70°	6.5	7.4
72.5°	6.5	7.4
75°	5.6	6.5
77.5°	4.6	5.6
80°	3.7	4.6
82.5°	2.8	3.7
85°	0.9	0.9
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)