

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: P358831

Luminaire Tested: **HL36SAR13WFLD2WED010TLS3PINMWWB-TILTED 30D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P358831  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1908-462-30)  
Test Lab: INNOVATION CENTER (G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: HL36SAR13WFLD2WED010TLS3PINMWWB-TILTED 30D  
Description: HL3 13W Square tilted 30D, Wide 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: 759.0 lumens  
Efficiency: N/A  
Efficacy: 52.7 lumens/watt  
Spacing Criteria (0/90/45): 1.38 / 0.54 / 1.2  
Luminous Opening: Rectangular (W 0.17' x L: 0.17' x H: 0')  
CIE Type: Direct

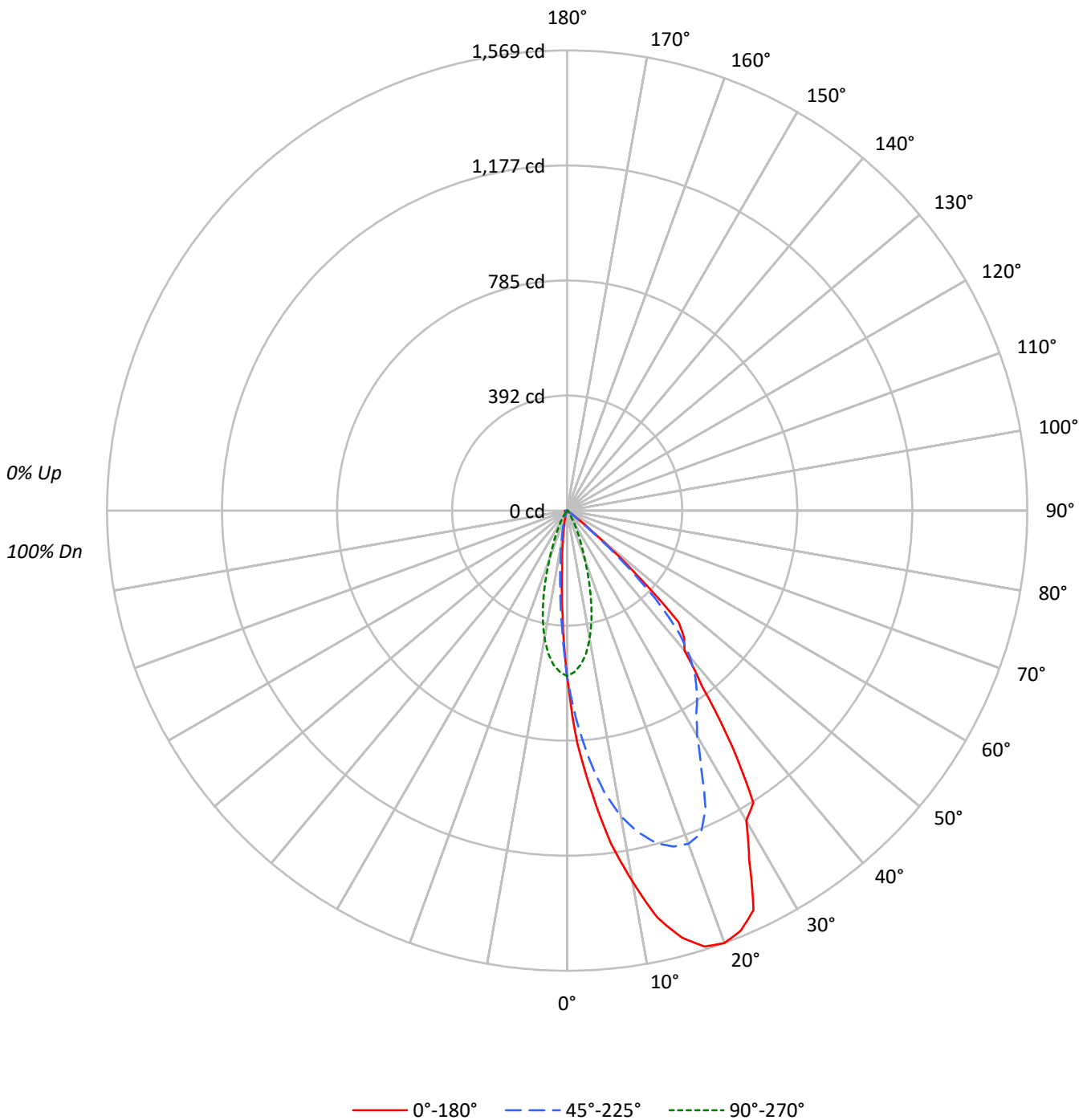
Input Watts (W): 14.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	105	110	108	105	103	104	102	100	100	98	97	97	95	94					92				
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86					85				
3	101	94	88	84	99	92	87	83	89	85	82	87	83	80	85	82	79					78				
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73					71				
5	89	80	74	69	88	79	73	69	77	72	68	76	71	67	74	70	67					65				
6	84	74	68	63	83	74	67	63	72	67	62	71	66	62	69	65	62					60				
7	79	69	63	58	78	69	62	58	67	62	57	66	61	57	65	60	57					55				
8	75	65	58	53	74	64	58	53	63	57	53	62	57	53	61	56	53					51				
9	71	60	54	49	70	60	54	49	59	53	49	58	53	49	57	52	49					47				
10	67	57	50	46	66	56	50	46	55	50	46	54	49	46	54	49	45					44				

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

	0°	90°	180°
0°	218705	218705	218705
5°	375599	205459	77485
10°	505382	173917	28448
15°	604481	125646	11152
20°	646965	72206	4206
25°	642663	37625	0
30°	546510	18256	0
35°	463352	6150	0
40°	314534	455	0
45°	294554	493	493
50°	75416	543	1145
55°	3108	608	1284
60°	697	697	2170
65°	825	825	3393
70°	1020	1020	4192
75°	1347	2845	8384
80°	2008	4240	16513
85°	0	4001	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	53.9	7.1
10°-20°	162.3	21.4
20°-30°	226.1	29.8
30°-40°	195.3	25.7
40°-50°	107.8	14.2
50°-60°	8.5	1.1
60°-70°	1.5	0.2
70°-80°	2.3	0.3
80°-90°	1.2	0.2
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°	442.3	58.3
0°-40°	637.6	84.0
0°-60°	753.9	99.3
0°-90°	759.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	759.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	564	564	564	564	564	
5°	966	847	528	267	199	102
15°	1507	1173	313	50	28	423
25°	1503	1116	88	10	0	665
35°	980	773	13	0	0	594
45°	538	426	1	1	1	344
55°	5	1	1	1	2	24
65°	1	1	1	2	4	1
75°	1	1	2	3	6	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°	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4	564.4
2.5°	793.2	780.3	781.2	776.6	771.0	771.0	712.6	645.0	551.4	466.1	400.3
5°	965.6	982.3	975.8	965.6	948.9	945.2	847.0	702.4	528.2	370.7	266.9
7.5°	1145.4	1138.0	1139.8	1132.4	1114.8	1091.6	966.5	744.1	492.1	283.6	171.4
10°	1284.4	1289.0	1277.0	1269.6	1242.7	1227.9	1059.2	770.1	442.0	207.6	111.2
12.5°	1421.5	1414.1	1403.0	1380.8	1354.8	1340.0	1124.1	773.8	383.7	143.6	73.2
15°	1506.8	1504.0	1492.9	1470.7	1441.9	1425.3	1173.2	758.0	313.2	101.9	50.0
17.5°	1558.7	1554.1	1542.0	1521.6	1493.8	1475.3	1201.0	723.7	240.9	72.3	34.3
20°	1568.9	1566.1	1559.6	1544.8	1519.8	1502.2	1209.3	666.3	175.1	51.0	23.2
22.5°	1549.4	1550.4	1547.6	1542.0	1526.3	1511.4	1191.7	589.4	125.1	37.1	15.8
25°	1503.1	1504.9	1511.4	1517.9	1514.2	1503.1	1115.7	509.7	88.0	25.0	10.2
27.5°	1344.6	1367.8	1401.2	1445.6	1483.6	1479.0	989.7	429.1	62.1	16.7	5.6
30°	1221.4	1228.8	1259.4	1298.3	1326.1	1344.6	885.9	345.7	40.8	10.2	1.9
32.5°	1181.5	1189.9	1215.8	1243.6	1256.6	1262.2	820.1	255.8	25.9	5.6	0.0
35°	979.5	993.4	1034.2	1092.6	1139.8	1154.7	772.9	173.3	13.0	2.8	0.0
37.5°	756.2	764.5	766.4	822.9	887.8	904.5	718.2	97.3	4.6	0.9	0.0
40°	621.8	614.4	611.6	618.1	657.0	676.5	650.5	40.8	0.9	0.9	0.0
42.5°	590.3	586.6	578.3	572.7	572.7	582.9	562.5	10.2	0.9	0.9	0.0
45°	537.5	531.9	528.2	525.4	524.5	527.3	426.3	1.9	0.9	0.9	0.9
47.5°	304.9	325.3	360.5	394.8	419.8	436.5	248.4	0.9	0.9	0.9	0.9
50°	125.1	135.3	142.7	164.0	209.4	216.8	91.7	0.9	0.9	0.9	0.9
52.5°	41.7	43.6	46.3	50.0	62.1	66.7	16.7	0.9	0.9	0.9	0.9
55°	4.6	3.7	3.7	4.6	4.6	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	1.9	1.9
62.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	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	0.9	1.9	1.9
70°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	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	0.9	1.9	2.8	3.7
80°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	3.7
82.5°	0.9	0.9	0.9	0.0	0.0	0.9	0.9	0.9	0.9	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	0.0
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°	564.4	564.4
2.5°	359.6	360.5
5°	210.4	199.2
7.5°	127.0	114.0
10°	76.9	72.3
12.5°	50.0	44.5
15°	33.4	27.8
17.5°	21.3	17.6
20°	13.0	10.2
22.5°	6.5	2.8
25°	1.9	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	0.9
45°	0.9	0.9
47.5°	0.9	0.9
50°	0.9	1.9
52.5°	0.9	1.9
55°	1.9	1.9
57.5°	1.9	2.8
60°	1.9	2.8
62.5°	2.8	2.8
65°	2.8	3.7
67.5°	2.8	3.7
70°	2.8	3.7
72.5°	2.8	3.7
75°	3.7	5.6
77.5°	5.6	6.5
80°	6.5	7.4
82.5°	5.6	7.4
85°	0.0	0.0
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)