

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: P358784

Luminaire Tested: **HL36AR13FLD2WED010TL3R2GMW-TILTED 30D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P358784  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1908-462-20)  
Test Lab: INNOVATION CENTER (G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: HL36AR13FLD2WED010TL3R2GMW-TILTED 30D  
Description: HL3 13W Round tilted 30D, Flood optic with conical trim, Lensed, Matte White  
Light Source: (1) 3100K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 927.0 lumens  
Efficiency: N/A  
Efficacy: 64.4 lumens/watt  
Spacing Criteria (0/90/45): 2.13 / 0.54 / 1.2  
Luminous Opening: Rectangular (W 0.27' x L: 0.27' x H: 0')  
CIE Type: Direct

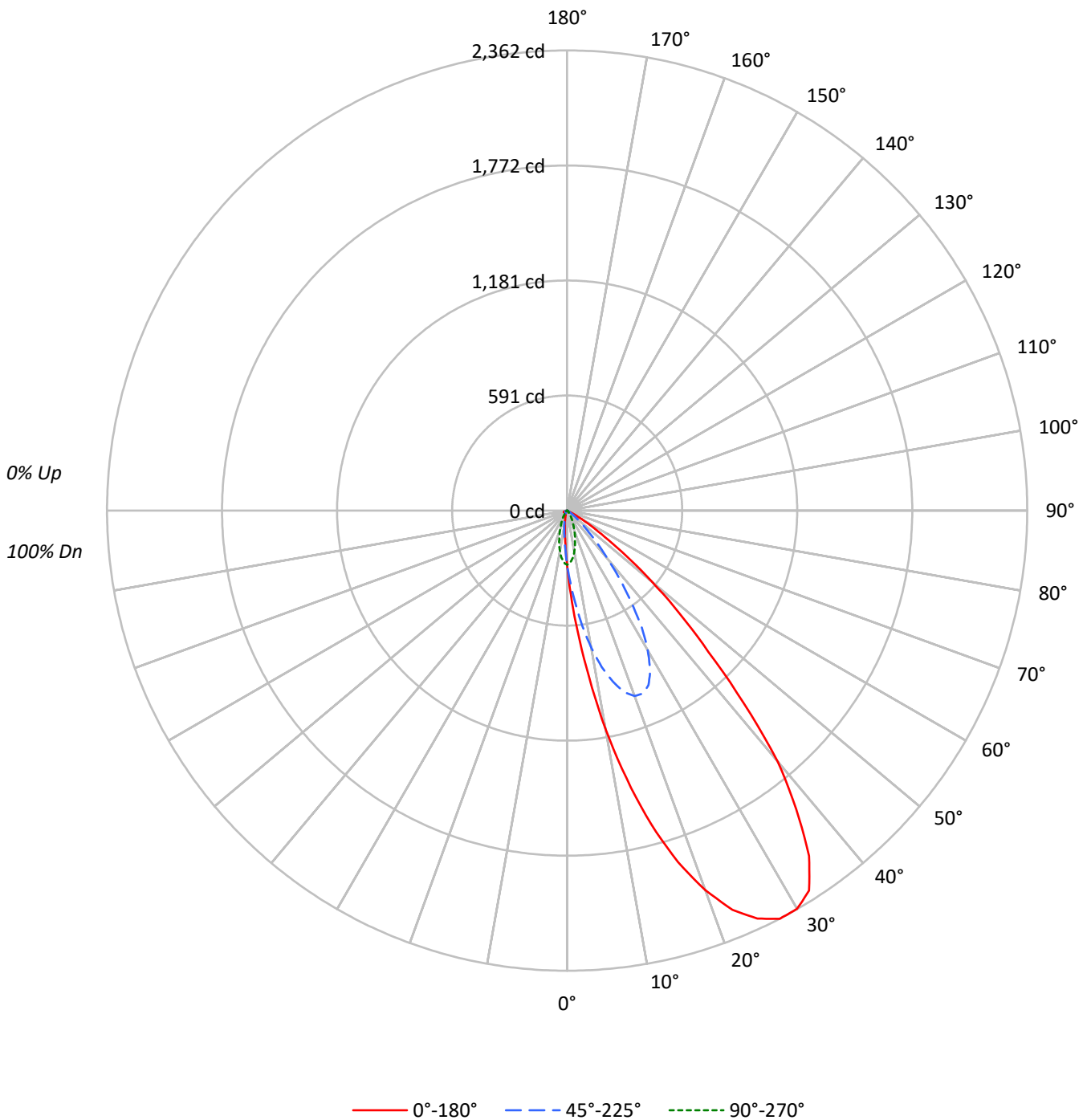
Input Watts (W): 14.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P358784

CATALOG NUMBER: HL36AR13FLD2WED010TL3R2GMW-TILTED 30D

### Luminous Intensity Polar Plot





TEST NUMBER: P358784

CATALOG NUMBER: HL36AR13FLD2WED010TL3R2GMW-TILTED 30D

**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	112	109	106	103	110	107	104	102	103	101	99	99	97	96	95	94	93	91					91			
2	105	99	95	90	103	98	93	89	94	91	87	91	88	86	88	86	84	82					82			
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75	74					74			
4	92	83	76	71	90	82	75	71	79	74	70	77	73	69	75	71	68	66					66			
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	69	65	61	60					60			
6	80	70	62	57	79	69	62	57	67	61	56	66	60	56	64	59	56	54					54			
7	75	64	57	52	74	63	56	51	62	56	51	61	55	51	59	54	51	49					49			
8	70	59	52	47	69	58	52	47	57	51	47	56	50	46	55	50	46	44					44			
9	66	55	48	43	65	54	47	43	53	47	42	52	46	42	51	46	42	41					41			
10	62	51	44	39	61	50	44	39	49	43	39	48	43	39	48	42	39	37					37			

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

	0°	90°	180°
0°	40913	40913	40913
5°	91286	37932	18281
10°	170199	31605	9388
15°	253316	23928	5348
20°	323744	16788	3467
25°	374076	11545	2396
30°	399948	7371	2033
35°	387650	4479	1827
40°	322076	2663	1954
45°	212802	1536	2490
50°	129421	1050	2968
55°	59970	1177	4017
60°	20926	1350	5165
65°	4167	1597	6424
70°	815	1588	7165
75°	510	1588	6804
80°	761	1606	5493
85°	0	1515	4714



TEST NUMBER: P358784

CATALOG NUMBER: HL36AR13FLD2WED010TL3R2GMW-TILTED 30D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.9	3.6
10°-20°	141.0	15.2
20°-30°	259.3	28.0
30°-40°	277.9	30.0
40°-50°	153.9	16.6
50°-60°	44.9	4.8
60°-70°	10.4	1.1
70°-80°	5.0	0.5
80°-90°	1.6	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°	433.3	46.7
0°-40°	711.2	76.7
0°-60°	910.0	98.2
0°-90°	927.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	927.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	279	279	279	279	279	
5°	620	470	258	149	124	75
15°	1667	910	158	50	35	480
25°	2310	988	71	20	15	1058
35°	2164	571	25	11	10	1315
45°	1025	156	7	8	12	816
55°	234	30	5	10	16	235
65°	12	6	5	11	18	21
75°	1	2	3	7	12	1
85°	0	1	1	2	3	0
90°	0	0	0	0	0	



TEST NUMBER: P358784

CATALOG NUMBER: HL36AR13FLD2WED010TL3R2GMW-TILTED 30D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	45°	67.5°	90°	112.5°	135°
0°	278.8	278.8	278.8	278.8	278.8	278.8	278.8	278.8	278.8	278.8	278.8
2.5°	430.7	428.9	422.4	411.3	408.5	405.7	368.7	320.5	271.4	229.7	202.9
5°	619.7	611.4	616.0	609.5	587.3	580.8	469.6	358.5	257.5	189.9	149.1
7.5°	861.5	860.6	843.0	830.0	802.2	780.0	595.6	387.2	238.1	153.8	112.1
10°	1142.2	1134.8	1124.6	1085.7	1038.4	1010.6	713.3	403.9	212.1	123.2	84.3
12.5°	1408.0	1399.7	1378.4	1325.6	1269.1	1241.3	822.6	406.7	186.2	98.2	63.9
15°	1667.4	1650.7	1627.6	1564.6	1499.7	1452.5	909.7	394.6	157.5	78.7	50.0
17.5°	1891.6	1880.5	1830.4	1778.6	1689.6	1637.8	977.3	369.6	131.5	63.0	38.9
20°	2073.1	2060.2	2022.2	1946.2	1843.4	1784.1	1012.5	334.4	107.5	50.9	31.5
22.5°	2217.6	2198.2	2152.8	2068.5	1962.0	1896.2	1016.2	289.9	87.1	41.7	25.0
25°	2310.3	2293.6	2241.7	2156.5	2037.9	1966.6	988.4	243.6	71.3	33.3	20.4
27.5°	2362.1	2345.5	2291.7	2199.1	2071.3	1995.3	922.6	198.2	55.6	26.9	16.7
30°	2360.3	2345.5	2289.0	2191.7	2059.2	1976.8	827.2	154.7	43.5	22.2	13.9
32.5°	2312.1	2289.0	2226.0	2125.9	1988.8	1898.1	712.3	118.6	34.3	17.6	12.0
35°	2163.9	2145.4	2092.6	2000.9	1852.7	1758.2	570.6	88.0	25.0	13.9	11.1
37.5°	1932.3	1932.3	1867.5	1786.0	1648.9	1572.9	443.7	62.1	18.5	11.1	10.2
40°	1681.3	1660.9	1598.8	1519.2	1383.9	1304.3	320.5	43.5	13.9	9.3	9.3
42.5°	1341.3	1321.9	1287.6	1219.1	1104.2	1038.4	231.6	29.6	10.2	8.3	8.3
45°	1025.4	1025.4	989.3	914.3	826.3	776.3	156.5	19.5	7.4	7.4	8.3
47.5°	784.6	765.1	729.9	677.1	602.1	549.3	108.4	13.0	5.6	7.4	9.3
50°	566.9	548.4	514.1	476.1	415.0	379.8	71.3	7.4	4.6	6.5	9.3
52.5°	377.9	372.4	349.2	318.7	276.0	253.8	47.2	5.6	4.6	6.5	9.3
55°	234.4	231.6	219.5	197.3	168.6	152.8	29.6	3.7	4.6	7.4	10.2
57.5°	136.2	131.5	126.0	115.8	99.1	90.8	19.5	3.7	4.6	7.4	11.1
60°	71.3	71.3	66.7	62.1	54.7	50.9	12.0	3.7	4.6	7.4	11.1
62.5°	32.4	34.3	31.5	29.6	26.9	25.9	8.3	2.8	4.6	7.4	11.1
65°	12.0	12.0	11.1	11.1	11.1	11.1	5.6	2.8	4.6	7.4	11.1
67.5°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	2.8	3.7	7.4	11.1
70°	1.9	1.9	1.9	1.9	1.9	1.9	2.8	2.8	3.7	6.5	10.2
72.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.8	3.7	5.6	9.3
75°	0.9	0.9	0.9	0.9	1.9	1.9	1.9	1.9	2.8	4.6	7.4
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	1.9	3.7	6.5
80°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	2.8	4.6
82.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	3.7
85°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	1.9	1.9
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



TEST NUMBER: P358784

CATALOG NUMBER: HL36AR13FLD2WED010TL3R2GMW-TILTED 30D

**CANDELA DISTRIBUTION (continued):**

	157.5°	180°
0°	278.8	278.8
2.5°	184.3	184.3
5°	129.7	124.1
7.5°	92.6	86.1
10°	67.6	63.0
12.5°	50.9	46.3
15°	38.9	35.2
17.5°	29.6	27.8
20°	24.1	22.2
22.5°	19.5	17.6
25°	15.7	14.8
27.5°	13.9	13.0
30°	12.0	12.0
32.5°	11.1	11.1
35°	10.2	10.2
37.5°	10.2	10.2
40°	10.2	10.2
42.5°	10.2	11.1
45°	10.2	12.0
47.5°	11.1	13.0
50°	12.0	13.0
52.5°	12.0	13.9
55°	13.9	15.7
57.5°	14.8	16.7
60°	15.7	17.6
62.5°	15.7	17.6
65°	15.7	18.5
67.5°	15.7	17.6
70°	14.8	16.7
72.5°	13.9	14.8
75°	11.1	12.0
77.5°	8.3	8.3
80°	6.5	6.5
82.5°	4.6	4.6
85°	2.8	2.8
87.5°	0.9	0.9
90°	0.0	0.0

(END OF REPORT)