

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: P358833

Luminaire Tested: **HL36AR13WFLD2WED010TL3RMW-TILTED 30D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P358833
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1908-462-26)
Test Lab: INNOVATION CENTER (G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL36AR13WFLD2WED010TL3RMW-TILTED 30D
Description: HL3 13W Round tilted 30D, Wide Flood optic with conical 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: 1001.0 lumens
Efficiency: N/A
Efficacy: 69.5 lumens/watt
Spacing Criteria (0/90/45): 1.63 / 0.55 / 1.24
Luminous Opening: Rectangular (W 0.27' x L: 0.27' x H: 0')
CIE Type: Direct

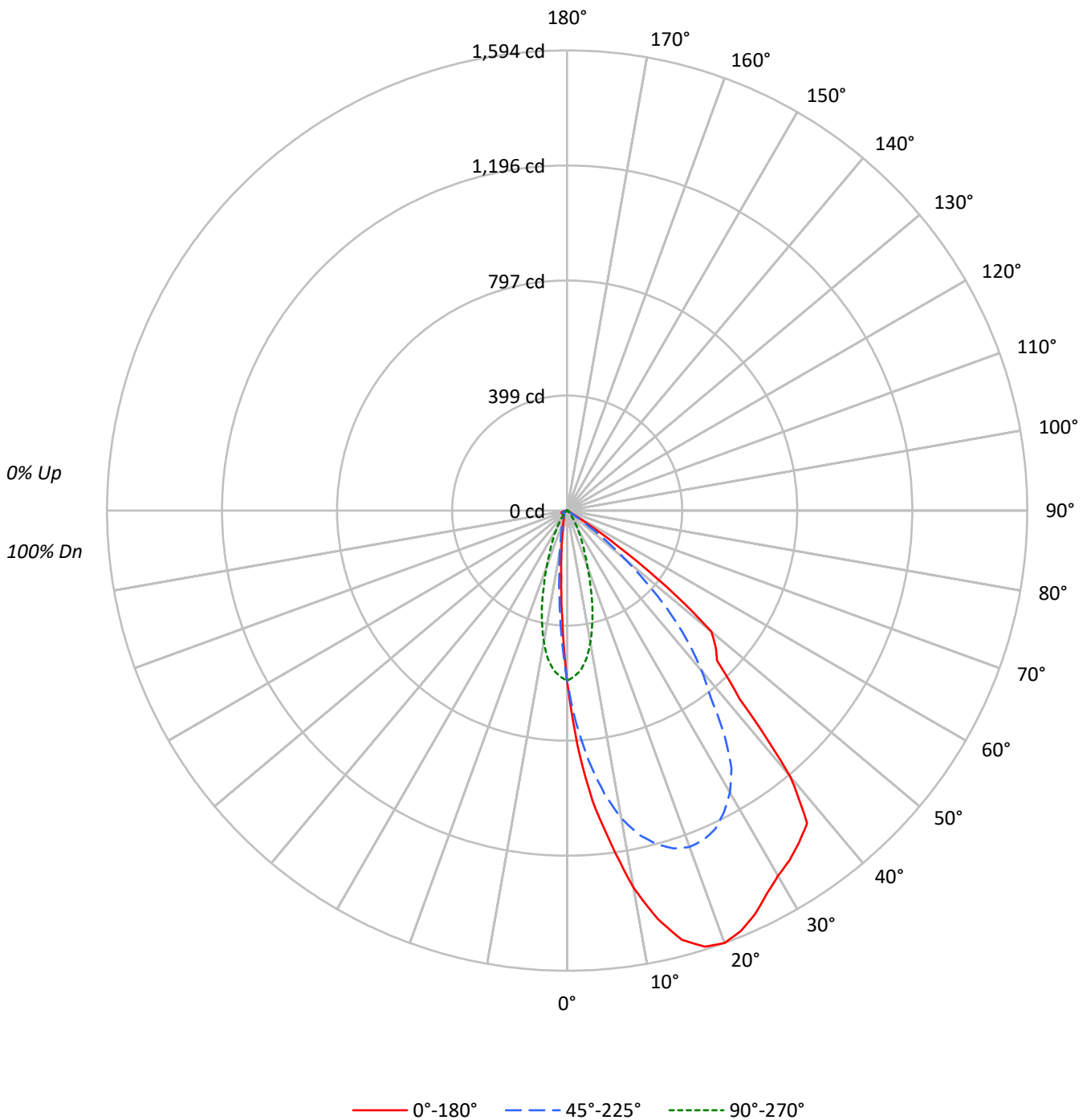
Input Watts (W): 14.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	109	106	103	110	107	104	102	103	101	99	99	97	96	95	94	93	91					91			
2	105	99	95	91	103	98	93	89	94	91	87	91	88	86	88	86	84	82					82			
3	99	91	85	80	96	89	84	79	87	82	78	84	80	77	82	78	76	74					74			
4	92	83	76	71	90	82	76	71	80	74	70	77	73	69	75	71	68	66					66			
5	86	76	69	64	84	75	69	64	73	67	63	71	66	62	70	65	62	60					60			
6	81	70	63	58	79	69	62	57	68	62	57	66	61	57	65	60	56	55					55			
7	76	65	57	52	74	64	57	52	62	56	52	61	56	52	60	55	51	50					50			
8	71	60	53	48	70	59	52	48	58	52	47	57	51	47	56	51	47	45					45			
9	67	55	48	44	66	55	48	44	54	48	44	53	47	43	52	47	43	42					42			
10	63	52	45	40	62	51	45	40	50	44	40	49	44	40	49	43	40	38					38			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	86448	86448	86448
5°	148588	81461	33969
10°	197647	69007	14901
15°	233870	50940	8447
20°	248941	32107	5497
25°	249562	20094	4048
30°	247513	12404	3457
35°	251053	7309	3153
40°	230489	4080	3372
45°	152431	1930	3839
50°	148872	1484	4452
55°	53318	1663	4989
60°	558	1644	5987
65°	660	1944	7084
70°	815	1974	8367
75°	510	2098	10489
80°	761	1606	10141
85°	0	1515	7745



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.6	5.6
10°-20°	170.0	17.0
20°-30°	249.6	24.9
30°-40°	263.6	26.3
40°-50°	181.2	18.1
50°-60°	62.9	6.3
60°-70°	8.2	0.8
70°-80°	6.8	0.7
80°-90°	2.3	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°	476.1	47.6
0°-40°	739.7	73.9
0°-60°	983.7	98.3
0°-90°	1001.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1001.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	589	589	589	589	589	
5°	1009	872	553	304	231	105
15°	1539	1196	335	79	56	431
25°	1541	1216	124	34	25	709
35°	1401	950	41	18	18	866
45°	734	509	9	15	18	623
55°	208	63	6	16	20	224
65°	2	2	6	16	20	2
75°	1	2	4	12	18	1
85°	0	1	1	3	5	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°	589.1	589.1	589.1	589.1	589.1	589.1	589.1	589.1	589.1	589.1	589.1
2.5°	810.5	804.0	809.5	808.6	801.2	800.3	741.0	665.0	575.2	491.8	435.3
5°	1008.7	1003.1	1003.1	995.7	981.8	965.1	872.5	722.5	553.0	401.1	303.8
7.5°	1163.4	1169.8	1158.7	1154.1	1140.2	1121.7	988.3	767.9	515.9	314.0	205.6
10°	1326.4	1314.3	1304.1	1292.1	1268.0	1254.1	1082.8	791.9	463.1	236.2	144.5
12.5°	1448.6	1441.2	1427.3	1409.7	1384.7	1362.5	1149.5	795.6	402.0	176.9	103.7
15°	1539.4	1530.1	1520.0	1498.7	1468.1	1451.4	1195.8	780.8	335.3	132.5	78.7
17.5°	1583.9	1580.2	1566.3	1548.7	1520.9	1501.4	1227.3	750.3	265.8	102.8	62.1
20°	1594.1	1592.2	1584.8	1570.0	1545.0	1528.3	1240.2	707.6	205.6	81.5	50.0
22.5°	1575.5	1574.6	1573.7	1566.3	1549.6	1536.6	1234.7	648.4	159.3	65.8	40.8
25°	1541.3	1541.3	1546.8	1549.6	1542.2	1531.1	1216.2	577.0	124.1	52.8	34.3
27.5°	1496.8	1503.3	1515.3	1528.3	1528.3	1521.8	1177.2	495.5	95.4	43.5	27.8
30°	1460.7	1469.0	1487.5	1506.1	1508.8	1501.4	1127.2	402.9	73.2	36.1	23.2
32.5°	1434.7	1440.3	1462.5	1476.4	1475.5	1468.1	1059.6	309.4	54.6	30.6	21.3
35°	1401.4	1407.9	1425.5	1437.5	1424.6	1415.3	950.3	218.6	40.8	25.0	18.5
37.5°	1365.3	1364.3	1368.1	1360.6	1347.7	1328.2	817.9	148.2	28.7	19.5	17.6
40°	1203.2	1186.5	1219.9	1240.2	1243.9	1230.0	724.3	98.2	21.3	15.7	15.7
42.5°	883.6	888.3	908.6	949.4	1032.8	1068.0	624.3	65.8	13.9	13.9	14.8
45°	734.5	732.7	734.5	748.4	795.6	833.6	509.4	38.9	9.3	12.0	14.8
47.5°	697.5	694.7	693.8	702.1	717.8	729.9	384.4	14.8	7.4	11.1	14.8
50°	652.1	654.9	653.0	657.6	661.3	660.4	262.1	3.7	6.5	11.1	14.8
52.5°	433.5	452.0	466.8	514.1	516.8	522.4	153.8	2.8	6.5	11.1	15.7
55°	208.4	215.8	218.6	235.3	262.1	271.4	63.0	1.9	6.5	11.1	15.7
57.5°	58.4	55.6	51.9	45.4	50.9	49.1	11.1	1.9	6.5	11.1	15.7
60°	1.9	1.9	1.9	1.9	2.8	2.8	1.9	1.9	5.6	11.1	15.7
62.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	5.6	11.1	15.7
65°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	5.6	10.2	15.7
67.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	4.6	10.2	14.8
70°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	4.6	9.3	13.9
72.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	3.7	8.3	13.0
75°	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	3.7	6.5	12.0
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	2.8	5.6	9.3
80°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	4.6	7.4
82.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	2.8	5.6
85°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	1.9	2.8
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



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CANDELA DISTRIBUTION (continued):

	157.5°	180°
0°	589.1	589.1
2.5°	396.4	381.6
5°	253.8	230.6
7.5°	160.2	150.1
10°	110.2	100.0
12.5°	79.7	73.2
15°	61.1	55.6
17.5°	47.2	43.5
20°	38.9	35.2
22.5°	31.5	28.7
25°	26.9	25.0
27.5°	24.1	23.2
30°	21.3	20.4
32.5°	19.5	17.6
35°	16.7	17.6
37.5°	16.7	17.6
40°	16.7	17.6
42.5°	17.6	18.5
45°	17.6	18.5
47.5°	17.6	18.5
50°	17.6	19.5
52.5°	18.5	19.5
55°	18.5	19.5
57.5°	18.5	20.4
60°	18.5	20.4
62.5°	18.5	20.4
65°	18.5	20.4
67.5°	18.5	20.4
70°	18.5	19.5
72.5°	17.6	19.5
75°	17.6	18.5
77.5°	14.8	14.8
80°	12.0	12.0
82.5°	8.3	8.3
85°	4.6	4.6
87.5°	1.9	1.9
90°	0.0	0.0

(END OF REPORT)