

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: P358785

Luminaire Tested: **HL36SAR13FLD2WED010TLS3RMW-TILTED 30D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P358785
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1908-462-18)
Test Lab: INNOVATION CENTER (G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL36SAR13FLD2WED010TLS3RMW-TILTED 30D
Description: HL3 13W Square tilted 30D, Flood optic with reflector 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: 1040.0 lumens
Efficiency: N/A
Efficacy: 72.2 lumens/watt
Spacing Criteria (0/90/45): 2.38 / 0.57 / 1.25
Luminous Opening: Rectangular (W 0.27' x L: 0.27' x H: 0')
CIE Type: Direct

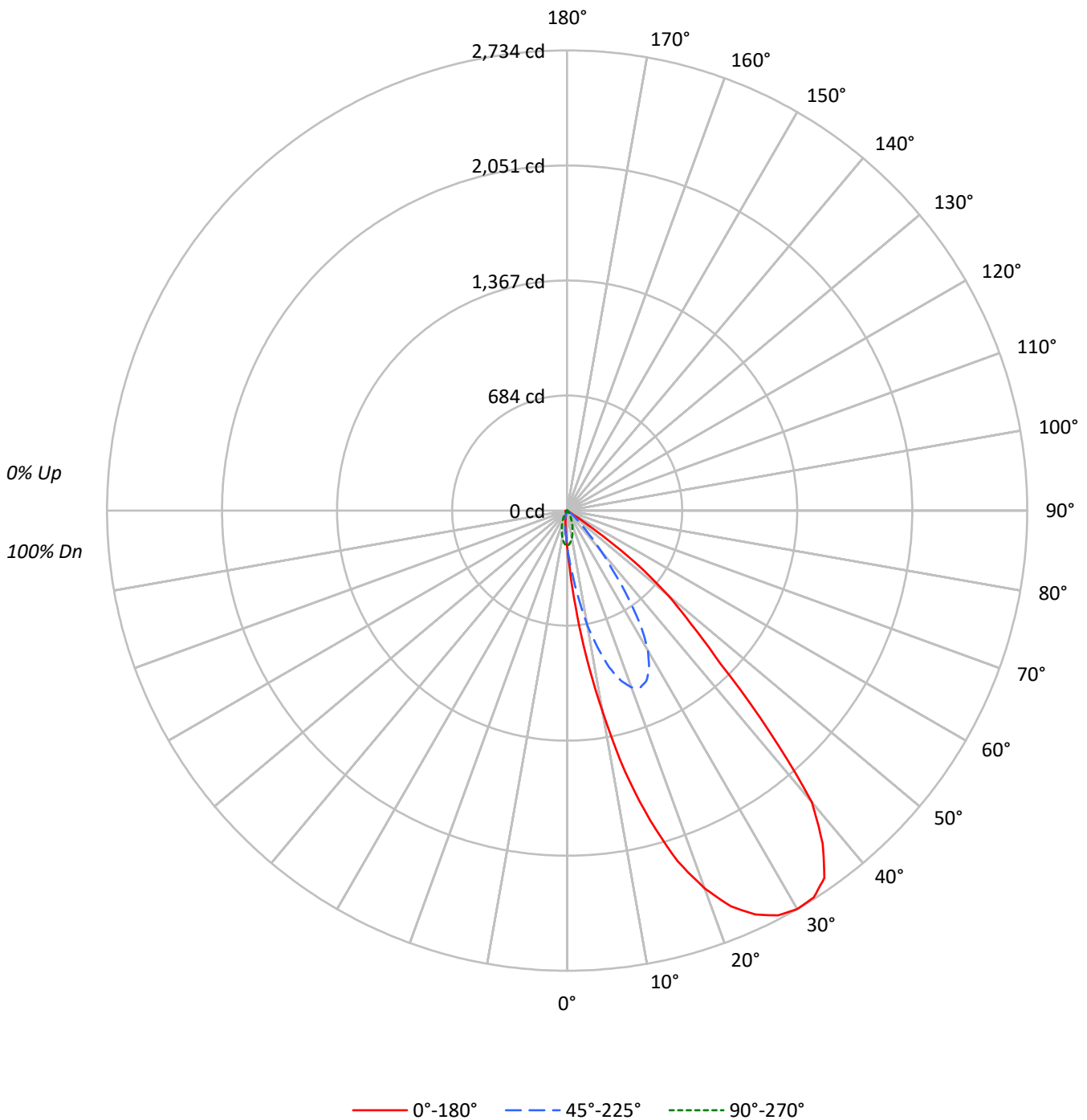
Input Watts (W): 14.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	110	107	104	102	103	101	99	99	97	96	96	94	93	91					91			
2	105	100	95	91	103	98	93	90	94	91	88	91	88	86	89	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	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	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	56	54					54			
7	75	64	57	51	73	63	56	51	62	55	51	60	55	51	59	54	50	49					49			
8	70	59	51	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44					44			
9	66	54	47	42	64	54	47	42	53	46	42	52	46	42	51	45	42	40					40			
10	62	50	43	39	61	50	43	38	49	43	38	48	42	38	47	42	38	37					37			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	30846	30846	30846
5°	83759	28651	14466
10°	180362	24423	7585
15°	289550	18854	4087
20°	372826	13883	2452
25°	428707	9440	1652
30°	463237	5965	1101
35°	477294	3153	1003
40°	433394	1590	1073
45°	267154	581	1349
50°	178026	434	1689
55°	50478	486	2124
60°	264	822	2729
65°	313	972	3542
70°	386	1201	4376
75°	510	1588	5273
80°	0	1606	5493
85°	0	3199	4714



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.2	2.8
10°-20°	149.5	14.4
20°-30°	290.5	27.9
30°-40°	334.1	32.1
40°-50°	189.7	18.2
50°-60°	37.5	3.6
60°-70°	4.1	0.4
70°-80°	3.9	0.4
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°	469.2	45.1
0°-40°	803.3	77.2
0°-60°	1030.4	99.1
0°-90°	1040.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1040.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	210	210	210	210	210	
5°	569	393	194	120	98	75
15°	1906	964	124	40	27	547
25°	2648	1116	58	15	10	1216
35°	2664	633	18	6	6	1625
45°	1287	127	3	5	6	1065
55°	197	13	2	6	8	246
65°	1	1	3	7	10	1
75°	1	1	3	6	9	1
85°	0	1	2	2	3	0
90°	0	0	0	0	0	



TEST NUMBER: P358785

CATALOG NUMBER: HL36SAR13FLD2WED010TLS3RMW-TILTED 30D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	45°	67.5°	90°	112.5°	135°
0°	210.2	210.2	210.2	210.2	210.2	210.2	210.2	210.2	210.2	210.2	210.2
2.5°	329.7	330.6	334.3	336.2	328.8	326.9	288.9	243.6	204.7	175.0	154.7
5°	568.6	560.3	544.5	537.1	523.2	517.7	392.7	275.0	194.5	146.3	120.4
7.5°	880.7	852.9	843.7	830.7	786.2	783.5	530.6	302.8	179.7	122.2	91.7
10°	1210.4	1225.2	1205.8	1165.0	1106.7	1059.4	690.9	322.3	163.9	100.9	69.5
12.5°	1588.2	1564.1	1553.0	1481.7	1416.0	1361.3	830.7	326.9	144.5	80.6	52.8
15°	1905.9	1908.6	1854.0	1796.6	1707.7	1648.4	964.0	319.5	124.1	64.8	39.8
17.5°	2184.6	2186.5	2127.2	2059.6	1954.0	1890.1	1058.5	298.2	105.6	52.8	30.6
20°	2387.4	2375.4	2331.9	2256.9	2139.2	2071.6	1117.8	267.6	88.9	41.7	23.2
22.5°	2544.9	2522.6	2465.2	2381.0	2267.0	2195.7	1137.2	234.3	72.2	34.3	18.5
25°	2647.7	2629.1	2568.9	2477.3	2355.0	2277.2	1115.9	197.3	58.3	26.9	14.8
27.5°	2711.6	2691.2	2636.5	2543.0	2407.8	2327.2	1054.8	161.1	46.3	21.3	11.1
30°	2733.8	2717.1	2663.4	2570.8	2431.9	2344.8	959.4	124.1	35.2	15.7	9.3
32.5°	2725.5	2707.9	2650.4	2551.3	2405.0	2312.4	816.8	93.5	25.9	12.0	7.4
35°	2664.3	2652.3	2585.6	2482.8	2327.2	2225.4	633.4	66.7	17.6	9.3	6.5
37.5°	2493.0	2468.9	2404.1	2312.4	2167.0	2067.9	443.6	45.4	12.0	6.5	5.6
40°	2262.4	2218.9	2158.7	2076.3	1917.9	1789.2	307.5	29.6	8.3	4.6	4.6
42.5°	1778.1	1742.0	1717.0	1654.9	1539.1	1463.2	200.0	20.4	4.6	4.6	4.6
45°	1287.3	1279.8	1215.9	1151.1	1078.9	1013.1	126.9	11.1	2.8	3.7	4.6
47.5°	999.2	988.1	929.8	844.6	727.9	656.6	81.5	4.6	1.9	3.7	5.6
50°	779.8	760.3	713.1	627.0	490.8	430.6	53.7	0.9	1.9	3.7	5.6
52.5°	526.9	508.4	457.5	384.3	288.9	234.3	30.6	0.9	1.9	4.6	6.5
55°	197.3	195.4	183.4	138.0	104.6	85.2	13.0	0.9	1.9	4.6	6.5
57.5°	15.7	11.1	13.0	13.0	13.9	16.7	1.9	0.9	1.9	4.6	6.5
60°	0.9	0.9	0.9	0.9	0.9	1.9	0.9	0.9	2.8	4.6	7.4
62.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	2.8	5.6	7.4
65°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	2.8	5.6	7.4
67.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	2.8	5.6	7.4
70°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	2.8	4.6	7.4
72.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	2.8	4.6	6.5
75°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	2.8	3.7	6.5
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	3.7	5.6
80°	0.0	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	2.8	4.6
82.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	1.9	1.9	1.9	2.8
85°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	1.9	1.9	1.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	1.9	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°	210.2	210.2
2.5°	144.5	138.9
5°	105.6	98.2
7.5°	76.9	73.2
10°	54.6	50.9
12.5°	39.8	36.1
15°	29.6	26.9
17.5°	22.2	20.4
20°	16.7	15.7
22.5°	13.0	12.0
25°	11.1	10.2
27.5°	9.3	8.3
30°	7.4	6.5
32.5°	5.6	5.6
35°	5.6	5.6
37.5°	5.6	5.6
40°	5.6	5.6
42.5°	5.6	5.6
45°	6.5	6.5
47.5°	6.5	6.5
50°	6.5	7.4
52.5°	7.4	8.3
55°	7.4	8.3
57.5°	8.3	9.3
60°	8.3	9.3
62.5°	9.3	9.3
65°	9.3	10.2
67.5°	9.3	10.2
70°	9.3	10.2
72.5°	9.3	10.2
75°	8.3	9.3
77.5°	7.4	7.4
80°	5.6	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)