

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: P358815

Luminaire Tested: **HL36SAR13SPD2WED010TLS3PINMWWB-TILTED 30D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P358815
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1908-462-6)
Test Lab: INNOVATION CENTER (G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL36SAR13SPD2WED010TLS3PINMWWB-TILTED 30D
Description: HL3 13W Square tilted 30D, Spot 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: 817.0 lumens
Efficiency: N/A
Efficacy: 56.7 lumens/watt
Spacing Criteria (0/90/45): 2.05 / 0.51 / 1.06
Luminous Opening: Rectangular (W 0.17' x L: 0.17' x H: 0')
CIE Type: Direct

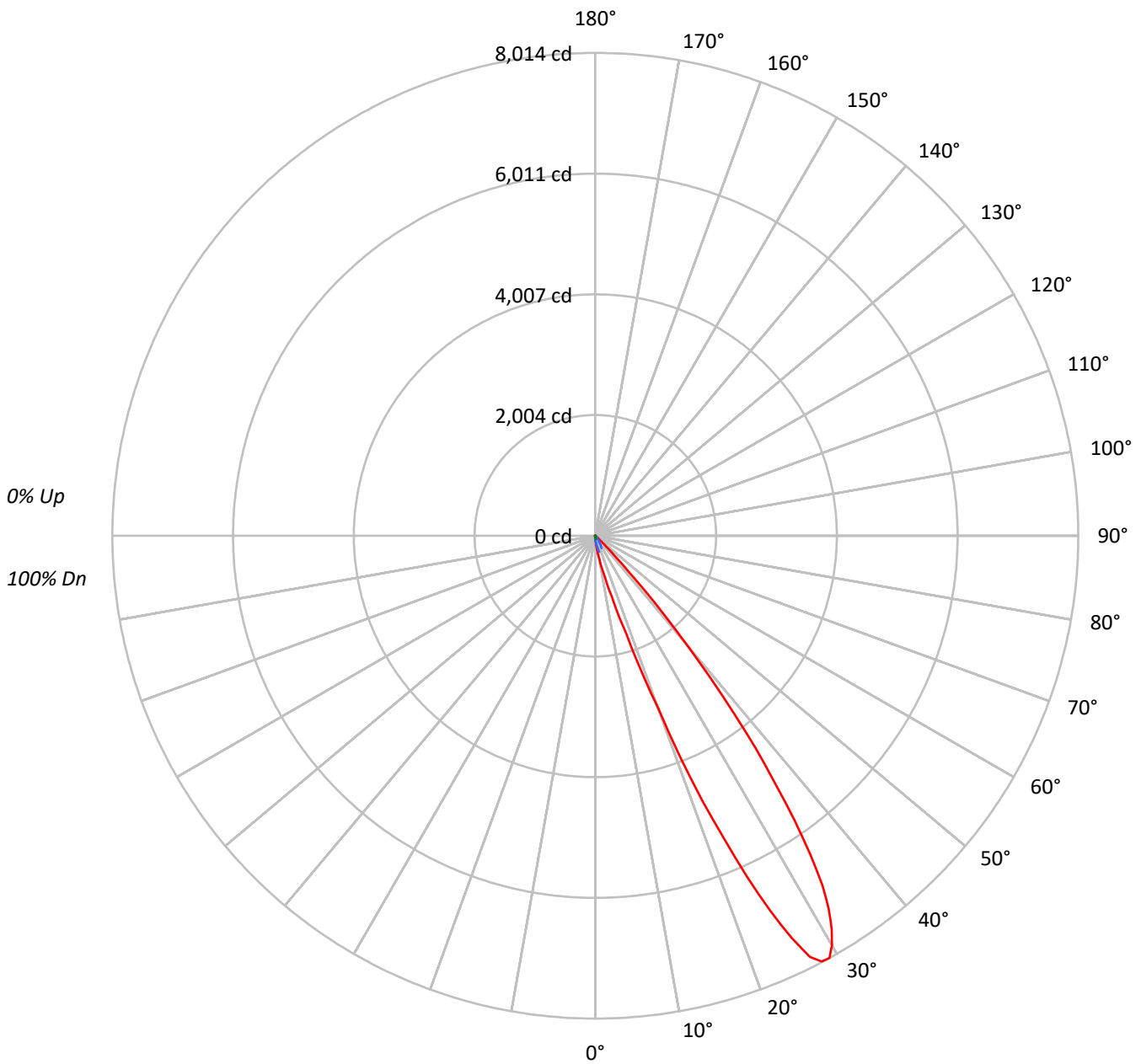
Input Watts (W): 14.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - - - 90°-270°



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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	104	110	107	105	103	103	101	99	100	98	96	96	95	94	92					92			
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	87	85	84					84			
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76					76			
4	93	85	78	74	92	84	78	73	81	76	72	79	75	71	77	74	70	69					69			
5	88	78	71	66	86	77	71	66	75	69	65	73	68	65	72	67	64	62					62			
6	82	72	65	60	80	71	64	59	69	63	59	68	63	59	66	62	58	57					57			
7	77	66	59	54	75	65	59	54	64	58	53	63	57	53	61	57	53	51					51			
8	72	61	54	49	70	60	53	49	59	53	49	58	52	48	57	52	48	46					46			
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	44	42					42			
10	63	52	45	40	62	51	45	40	50	44	40	49	44	40	49	44	40	38					38			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	24412	24412	24412
5°	59825	22327	8635
10°	166244	18966	2203
15°	417055	12998	361
20°	1253187	8412	0
25°	2939420	2779	0
30°	3511868	0	0
35°	2725758	0	0
40°	1187167	0	0
45°	122370	0	0
50°	18990	0	0
55°	1284	0	0
60°	697	697	1472
65°	825	1742	2567
70°	1020	2153	3172
75°	1347	2845	5540
80°	2008	4240	12497
85°	0	4001	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	8.3	1.0
10°-20°	70.3	8.6
20°-30°	355.8	43.5
30°-40°	334.3	40.9
40°-50°	42.0	5.1
50°-60°	1.2	0.1
60°-70°	1.6	0.2
70°-80°	2.4	0.3
80°-90°	1.3	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°	434.3	53.2
0°-40°	768.6	94.1
0°-60°	811.8	99.4
0°-90°	817.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	817.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	63	63	63	63	63	
5°	154	110	57	32	22	23
15°	1040	296	32	4	1	398
25°	6875	250	6	0	0	3036
35°	5762	91	0	0	0	3399
45°	223	9	0	0	0	449
55°	2	0	0	0	0	6
65°	1	1	2	3	3	1
75°	1	2	2	3	4	1
85°	0	1	1	1	0	0
90°	0	0	0	0	0	



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CATALOG NUMBER: HL36SAR13SPD2WED010TLS3PINMWWB-TILTED 30D

CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	22.5°	45°	67.5°	90°
0°	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0
2.5°	95.4	96.4	94.5	93.6	94.5	95.4	93.6	91.7	82.5	70.4	60.2
5°	153.8	151.0	151.0	152.0	148.2	148.2	146.4	139.0	110.3	78.8	57.4
7.5°	253.9	252.9	252.0	254.8	249.2	240.9	239.0	215.0	145.5	87.1	52.8
10°	422.5	420.6	422.5	411.4	404.9	393.8	382.7	347.5	189.9	92.7	48.2
12.5°	637.5	644.9	640.2	625.4	625.4	606.0	570.7	495.7	253.9	94.5	39.8
15°	1039.6	1028.5	1003.4	984.0	963.6	883.0	853.3	695.8	296.5	85.2	32.4
17.5°	1714.1	1677.0	1684.4	1566.8	1479.7	1408.3	1293.4	975.6	312.2	76.9	25.9
20°	3039.0	3049.2	2984.4	2817.6	2531.3	2322.8	2024.5	1345.3	296.5	69.5	20.4
21°	3955.4	3794.2	3659.8	3495.8	3156.7	2823.1	2481.3	1529.7	292.8	65.8	18.5
22°	4767.9	4684.6	4540.9	4301.0	3889.6	3400.4	2910.2	1727.1	285.4	60.2	15.8
23°	5452.7	5548.1	5373.0	4940.3	4471.5	4016.5	3443.0	1897.5	276.1	53.7	12.0
24°	6211.5	6240.2	6037.3	5721.3	5185.8	4543.7	3967.4	2081.9	265.0	48.2	9.3
25°	6874.9	6892.5	6591.4	6142.9	5672.2	5030.2	4309.3	2264.4	250.2	42.6	6.5
26°	7425.2	7353.9	7083.4	6654.4	6019.7	5358.1	4647.5	2365.4	235.3	37.1	3.7
27°	7844.0	7718.0	7391.0	6936.0	6306.0	5587.9	4817.0	2430.3	218.7	31.5	1.9
28°	8003.4	7919.1	7627.2	7107.4	6414.4	5658.3	4871.7	2427.5	201.1	26.9	0.9
29°	8013.6	7920.9	7636.5	7123.2	6399.6	5615.7	4788.3	2352.5	183.5	21.3	0.0
30°	7848.7	7747.7	7500.3	6953.6	6239.3	5460.1	4641.9	2195.0	166.8	14.8	0.0
31°	7617.0	7524.4	7286.3	6710.9	5966.0	5177.5	4389.9	1960.5	147.3	12.0	0.0
32°	7306.6	7193.6	6943.4	6389.4	5686.1	4883.8	4000.8	1688.1	135.3	8.3	0.0
33°	6924.9	6788.7	6466.3	5940.9	5199.7	4536.3	3673.7	1460.2	120.4	6.5	0.0
34°	6384.7	6277.3	5956.7	5417.4	4733.7	4051.7	3294.8	1292.5	106.6	4.6	0.0
35°	5762.1	5701.9	5355.4	4865.2	4279.7	3645.9	2917.7	1076.6	90.8	3.7	0.0
36°	5047.8	5034.8	4742.0	4315.8	3777.5	3134.5	2498.9	908.9	75.0	2.8	0.0
37°	4416.8	4304.7	3986.9	3660.7	3178.9	2628.6	2100.5	756.1	59.3	1.9	0.0
38°	3720.0	3625.5	3432.8	3148.4	2672.1	2131.0	1695.6	608.7	39.8	0.9	0.0
39°	3017.7	2992.7	2834.3	2471.1	2109.7	1750.2	1301.8	479.9	27.8	0.9	0.0
40°	2346.9	2300.6	2120.8	1917.9	1596.4	1299.0	981.2	387.3	22.2	0.9	0.0
42.5°	936.7	855.2	855.2	714.4	619.9	496.6	393.8	202.9	15.8	0.0	0.0
45°	223.3	211.2	203.8	175.1	152.0	130.6	119.5	81.5	9.3	0.0	0.0
47.5°	81.5	80.6	81.5	76.0	73.2	65.8	58.4	35.2	3.7	0.0	0.0
50°	31.5	31.5	31.5	28.7	26.9	26.9	26.9	17.6	0.9	0.0	0.0
52.5°	8.3	7.4	8.3	8.3	7.4	7.4	7.4	5.6	0.0	0.0	0.0
55°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	0.9	0.0	0.0	0.0
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	0.9	0.9
62.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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	1.9
72.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	1.9
75°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	1.9
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	1.9
80°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9



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CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	22.5°	45°	67.5°	90°
82.5°	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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):

	112.5°	135°	157.5°	180°
0°	63.0	63.0	63.0	63.0
2.5°	51.9	46.3	40.8	38.9
5°	42.6	31.5	25.0	22.2
7.5°	33.4	19.5	13.0	11.1
10°	25.0	12.0	6.5	5.6
12.5°	17.6	6.5	2.8	1.9
15°	12.0	3.7	0.9	0.9
17.5°	7.4	1.9	0.0	0.0
20°	3.7	0.9	0.0	0.0
21°	1.9	0.0	0.0	0.0
22°	0.9	0.0	0.0	0.0
23°	0.9	0.0	0.0	0.0
24°	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0
26°	0.0	0.0	0.0	0.0
27°	0.0	0.0	0.0	0.0
28°	0.0	0.0	0.0	0.0
29°	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0
31°	0.0	0.0	0.0	0.0
32°	0.0	0.0	0.0	0.0
33°	0.0	0.0	0.0	0.0
34°	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0
36°	0.0	0.0	0.0	0.0
37°	0.0	0.0	0.0	0.0
38°	0.0	0.0	0.0	0.0
39°	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0
47.5°	0.0	0.0	0.0	0.0
50°	0.0	0.0	0.0	0.0
52.5°	0.0	0.0	0.0	0.0
55°	0.9	0.0	0.0	0.0
57.5°	0.9	0.9	0.9	0.9
60°	0.9	0.9	0.9	1.9
62.5°	1.9	1.9	1.9	1.9
65°	1.9	2.8	1.9	2.8
67.5°	1.9	2.8	1.9	2.8
70°	1.9	2.8	2.8	2.8
72.5°	2.8	2.8	2.8	2.8
75°	2.8	2.8	3.7	3.7
77.5°	2.8	2.8	4.6	4.6
80°	2.8	3.7	4.6	5.6



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CANDELA DISTRIBUTION (continued):

	112.5°	135°	157.5°	180°
82.5°	1.9	2.8	4.6	4.6
85°	0.9	0.9	0.0	0.0
87.5°	0.9	0.9	0.0	0.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)