

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: P358782

Luminaire Tested: **HL36SAR13FLD2WED010TLS3PIN2GMWWB-TILTED 30D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P358782
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1908-462-24)
Test Lab: INNOVATION CENTER (G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL36SAR13FLD2WED010TLS3PIN2GMWWB-TILTED 30D
Description: HL3 13W Square tilted 30D, Flood optic with pin-hole trim, Lensed, Matte White
Light Source: (1) 3100K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 766.0 lumens
Efficiency: N/A
Efficacy: 53.2 lumens/watt
Spacing Criteria (0/90/45): 2.13 / 0.54 / 1.25
Luminous Opening: Rectangular (W 0.17' x L: 0.17' x H: 0')
CIE Type: Direct

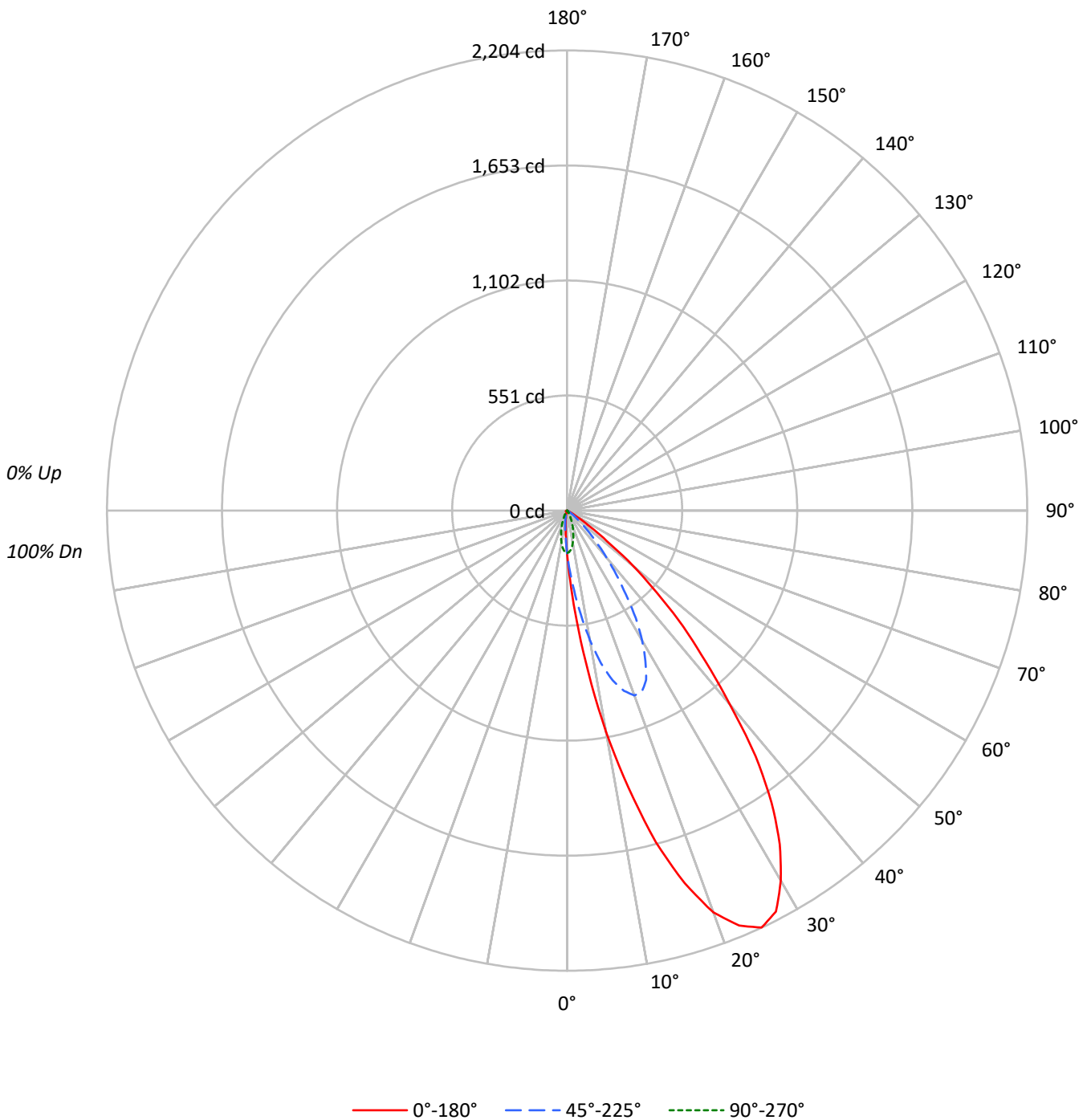
Input Watts (W): 14.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	109	106	104	110	107	105	102	103	101	99	99	98	96	96	95	93	91					91			
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	87	85	83					83			
3	99	92	86	81	97	90	85	80	87	83	79	85	81	78	83	79	77	75					75			
4	93	84	77	72	91	83	77	72	80	75	71	78	74	70	76	73	69	68					68			
5	87	77	70	65	85	76	70	65	74	69	64	72	68	64	71	66	63	61					61			
6	81	71	64	59	80	70	63	59	69	63	58	67	62	58	66	61	57	56					56			
7	76	65	58	53	75	65	58	53	63	57	53	62	57	53	61	56	52	51					51			
8	72	61	54	49	70	60	53	49	59	53	48	58	52	48	57	52	48	46					46			
9	67	56	49	45	66	56	49	44	55	48	44	54	48	44	53	48	44	42					42			
10	63	52	45	41	62	52	45	41	51	45	41	50	44	41	49	44	40	39					39			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	79011	79011	79011
5°	206548	73906	31002
10°	423657	61264	12749
15°	659843	45332	5937
20°	844448	29814	2309
25°	942125	17444	812
30°	915877	9531	403
35°	807874	4825	426
40°	612173	2327	455
45°	430624	1041	1534
50°	249155	1145	2773
55°	90799	1284	3783
60°	26582	1472	5037
65°	8527	1742	6785
70°	4192	2153	7364
75°	2845	2845	8384
80°	2008	2008	8257
85°	0	4001	4001



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.8	3.5
10°-20°	129.4	16.9
20°-30°	235.4	30.7
30°-40°	221.7	28.9
40°-50°	115.0	15.0
50°-60°	28.9	3.8
60°-70°	5.2	0.7
70°-80°	2.8	0.4
80°-90°	0.9	0.1
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°	391.5	51.1
0°-40°	613.2	80.0
0°-60°	757.1	98.8
0°-90°	766.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	766.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	204	204	204	204	204	
5°	531	384	190	100	80	68
15°	1645	842	113	25	15	470
25°	2204	895	41	6	2	992
35°	1708	489	10	1	1	1045
45°	786	150	2	2	3	604
55°	134	26	2	4	6	145
65°	9	4	2	5	7	13
75°	2	2	2	4	6	2
85°	0	1	1	1	1	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°	203.9	203.9	203.9	203.9	203.9	203.9	203.9	203.9	203.9	203.9	203.9
2.5°	330.8	339.1	334.5	321.5	322.5	322.5	288.2	240.0	199.2	165.9	139.9
5°	531.0	531.9	511.5	500.4	495.7	480.9	384.5	277.1	190.0	133.4	100.1
7.5°	780.2	780.2	763.5	742.2	703.3	702.4	502.2	305.8	175.1	104.7	71.3
10°	1076.7	1063.8	1048.0	1009.1	963.7	937.7	630.1	325.2	155.7	82.5	50.0
12.5°	1358.4	1364.0	1304.7	1284.3	1208.3	1182.4	748.7	332.7	136.2	63.0	35.2
15°	1644.8	1629.0	1602.1	1534.5	1459.4	1419.6	842.3	325.2	113.0	48.2	25.0
17.5°	1870.9	1866.2	1825.4	1760.6	1662.4	1604.9	905.3	303.9	91.7	35.2	17.6
20°	2047.8	2033.9	1991.3	1917.2	1809.7	1754.1	942.4	272.4	72.3	25.9	12.0
22.5°	2151.6	2136.8	2096.0	2017.3	1907.0	1836.6	937.7	233.5	55.6	18.5	8.3
25°	2203.5	2191.5	2148.8	2070.1	1945.0	1869.0	895.1	191.8	40.8	13.0	5.6
27.5°	2165.5	2158.1	2116.4	2043.2	1924.6	1845.8	812.6	151.0	29.7	9.3	2.8
30°	2046.9	2032.1	1983.9	1920.9	1821.7	1747.6	718.1	114.0	21.3	6.5	1.9
32.5°	1895.9	1892.2	1839.3	1768.0	1660.5	1583.6	611.6	84.3	14.8	3.7	0.9
35°	1707.8	1694.8	1649.4	1579.0	1489.1	1417.7	489.3	60.2	10.2	2.8	0.9
37.5°	1483.5	1460.4	1417.7	1347.3	1266.7	1205.5	384.5	42.6	6.5	1.9	0.9
40°	1210.2	1188.9	1170.3	1105.5	1030.4	973.0	291.9	28.7	4.6	0.9	0.9
42.5°	980.4	965.5	942.4	891.4	806.2	756.1	211.3	18.5	2.8	0.9	0.9
45°	785.8	775.6	745.0	692.2	619.9	584.7	150.1	12.0	1.9	0.9	1.9
47.5°	583.8	585.6	554.1	507.8	452.2	417.0	101.9	7.4	1.9	1.9	1.9
50°	413.3	403.1	377.1	346.6	309.5	287.3	68.6	4.6	1.9	1.9	2.8
52.5°	238.1	244.6	230.7	214.0	190.0	173.3	42.6	3.7	1.9	1.9	2.8
55°	134.4	127.9	129.7	123.2	110.3	101.0	25.9	2.8	1.9	2.8	3.7
57.5°	65.8	68.6	66.7	66.7	60.2	56.5	15.8	2.8	1.9	2.8	3.7
60°	34.3	35.2	34.3	34.3	30.6	29.7	9.3	1.9	1.9	2.8	3.7
62.5°	17.6	18.5	17.6	16.7	15.8	14.8	5.6	1.9	1.9	2.8	4.6
65°	9.3	8.3	9.3	8.3	7.4	7.4	3.7	1.9	1.9	2.8	4.6
67.5°	5.6	5.6	4.6	4.6	4.6	4.6	2.8	1.9	1.9	2.8	4.6
70°	3.7	3.7	3.7	3.7	2.8	2.8	2.8	1.9	1.9	2.8	3.7
72.5°	2.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.8	3.7
75°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.8	3.7
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9	2.8
80°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	2.8
82.5°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	1.9
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	0.9
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°	203.9	203.9
2.5°	127.9	126.9
5°	82.5	79.7
7.5°	54.7	50.0
10°	36.1	32.4
12.5°	24.1	21.3
15°	16.7	14.8
17.5°	11.1	9.3
20°	7.4	5.6
22.5°	3.7	2.8
25°	1.9	1.9
27.5°	0.9	0.9
30°	0.9	0.9
32.5°	0.9	0.9
35°	0.9	0.9
37.5°	0.9	0.9
40°	0.9	0.9
42.5°	0.9	1.9
45°	1.9	2.8
47.5°	2.8	3.7
50°	3.7	4.6
52.5°	4.6	5.6
55°	4.6	5.6
57.5°	5.6	6.5
60°	5.6	6.5
62.5°	5.6	7.4
65°	5.6	7.4
67.5°	5.6	7.4
70°	5.6	6.5
72.5°	5.6	6.5
75°	4.6	5.6
77.5°	4.6	4.6
80°	3.7	3.7
82.5°	2.8	2.8
85°	0.9	0.9
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)