

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: P277710

Luminaire Tested: **ML4D09_D2WE - TIR45WFL55 - TL45R6GMWBB - TL46S6GMWBB**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P277710
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-893-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML4D09_D2WE - TIR45WFL55 - TL45R6GMWBB - TL46S6GMWBB
Description: ML4 900LM 3000K, D2W, 55° WFL OPTIC, WITH SQUARE ASYMM WW, LINEAR SPREAD LENS, MATTE WHITE FLANGE, BLACK LENS FRAME
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 485.7 lumens
Efficiency: N/A
Efficacy: 40.5 lumens/watt
Spacing Criteria (0/90/45): 0.72 / 0.77 / 0.78
Luminous Opening: Rectangular (W 0.17' x L: 0.17' x H: 0')
CIE Type: Direct

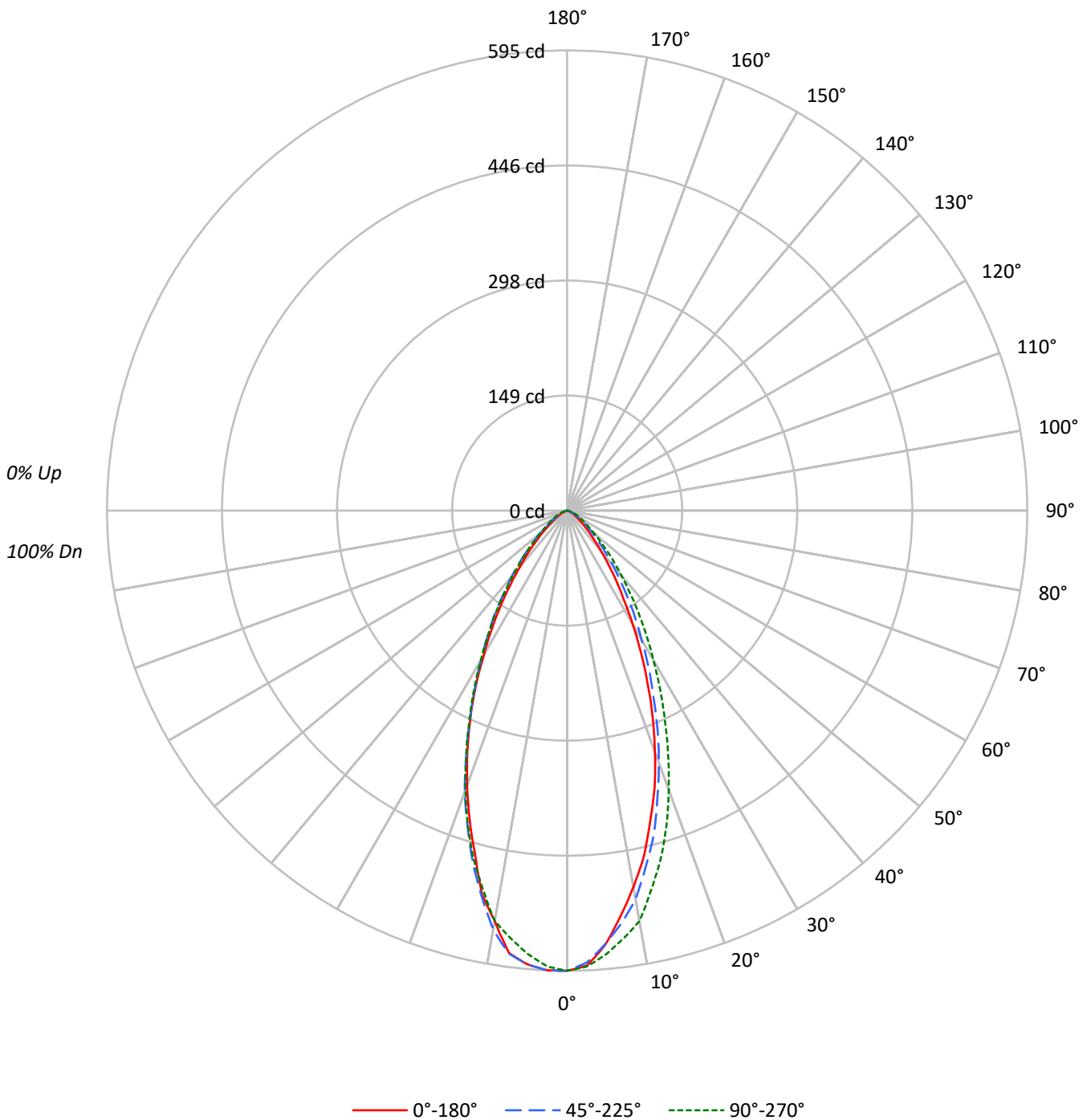
Input Watts (W): 12
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	97	95	94	92
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85
3	101	94	88	84	99	92	87	83	90	86	82	87	84	81	85	82	80	78
4	95	87	81	76	93	86	80	76	84	79	75	82	78	74	80	76	73	72
5	90	81	75	70	88	80	74	70	78	73	69	77	72	69	75	71	68	66
6	85	76	69	65	84	75	69	64	73	68	64	72	67	64	71	66	63	62
7	81	71	64	60	79	70	64	60	69	63	60	68	63	59	66	62	59	57
8	77	67	60	56	75	66	60	56	65	59	56	64	59	55	63	58	55	54
9	73	63	57	52	72	62	56	52	61	56	52	60	55	52	59	55	52	50
10	69	59	53	49	68	59	53	49	58	53	49	57	52	49	56	52	49	47

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	230562	230562	230562
5°	219384	224052	229109
10°	194378	212084	212084
15°	166485	187346	184538
20°	136906	158349	155875
25°	105179	127840	126557
30°	75618	99780	96201
35°	52508	75688	70484
40°	34397	54631	48055
45°	22468	38908	32332
50°	15071	27128	20497
55°	10809	19592	13512
60°	7750	15500	8525
65°	5501	12837	6418
70°	3399	9064	4532
75°	1497	4492	2994
80°	0	0	2232
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.5	11.0
10°-20°	125.4	25.8
20°-30°	129.6	26.7
30°-40°	91.9	18.9
40°-50°	49.7	10.2
50°-60°	22.7	4.7
60°-70°	10.0	2.1
70°-80°	2.8	0.6
80°-90°	0.1	0.0
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°	308.5	63.5
0°-40°	400.4	82.4
0°-60°	472.8	97.4
0°-90°	485.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	485.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	595	595	595	595	595	
5°	564	563	576	589	589	52
15°	415	433	467	471	460	115
25°	246	263	299	297	296	113
35°	111	135	160	163	149	70
45°	41	59	71	72	59	33
55°	16	24	29	27	20	15
65°	6	10	14	10	7	6
75°	1	2	3	3	2	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	595	595	595	595	595	595	595	595	595
2.5°	589	581	585	587	590	586	595	598	595
5°	564	562	563	573	576	586	589	579	589
7.5°	529	536	538	553	558	568	578	569	577
10°	494	497	510	526	539	545	550	545	539
12.5°	458	458	471	493	502	511	511	506	508
15°	415	421	433	454	467	474	471	465	460
17.5°	376	375	388	410	427	432	428	421	419
20°	332	334	347	370	384	387	387	378	378
22.5°	289	293	305	324	341	342	341	336	337
25°	246	253	263	285	299	297	297	296	296
27.5°	206	215	228	248	260	257	258	257	256
30°	169	178	192	212	223	222	222	220	215
32.5°	136	146	163	180	190	188	190	185	181
35°	111	118	135	151	160	158	163	156	149
37.5°	87	95	111	124	132	132	134	125	120
40°	68	78	90	102	108	110	112	100	95
42.5°	53	60	73	83	89	90	90	80	76
45°	41	48	59	68	71	72	72	63	59
47.5°	32	38	48	54	56	58	57	49	45
50°	25	30	38	43	45	46	46	38	34
52.5°	20	23	30	34	36	37	35	29	26
55°	16	19	24	28	29	28	27	22	20
57.5°	12	15	19	23	24	22	21	17	15
60°	10	12	15	19	20	18	16	13	11
62.5°	7	9	13	16	16	14	13	10	9
65°	6	7	10	13	14	11	10	8	7
67.5°	4	5	8	10	11	9	7	6	5
70°	3	4	6	8	8	7	6	5	4
72.5°	2	2	4	5	6	5	4	4	3
75°	1	1	2	3	3	3	3	3	2
77.5°	0	0	1	1	1	1	2	2	1
80°	0	0	0	0	0	0	1	1	1
82.5°	0	0	0	0	0	0	0	0	1
85°	0	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0

(END OF REPORT)