

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: P277701

Luminaire Tested: **ML4D09\_D2WE - TIR45FL40 - TL43R2GORBBB - TL44S2GORBBB**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P277701  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-893-6)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: ML4D09\_D2WE - TIR45FL40 - TL43R2GORBBB - TL44S2GORBBB  
Description: ML4 900LM 3000K, D2W, 40° FL OPTIC, WITH ROUND DIFFUSED CLEAR LENS,  
OIL RUBBED BRONZE 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: 587.9 lumens  
Efficiency: N/A  
Efficacy: 49.0 lumens/watt  
Spacing Criteria (0/90/45): 0.59 / 0.59 / 0.59  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

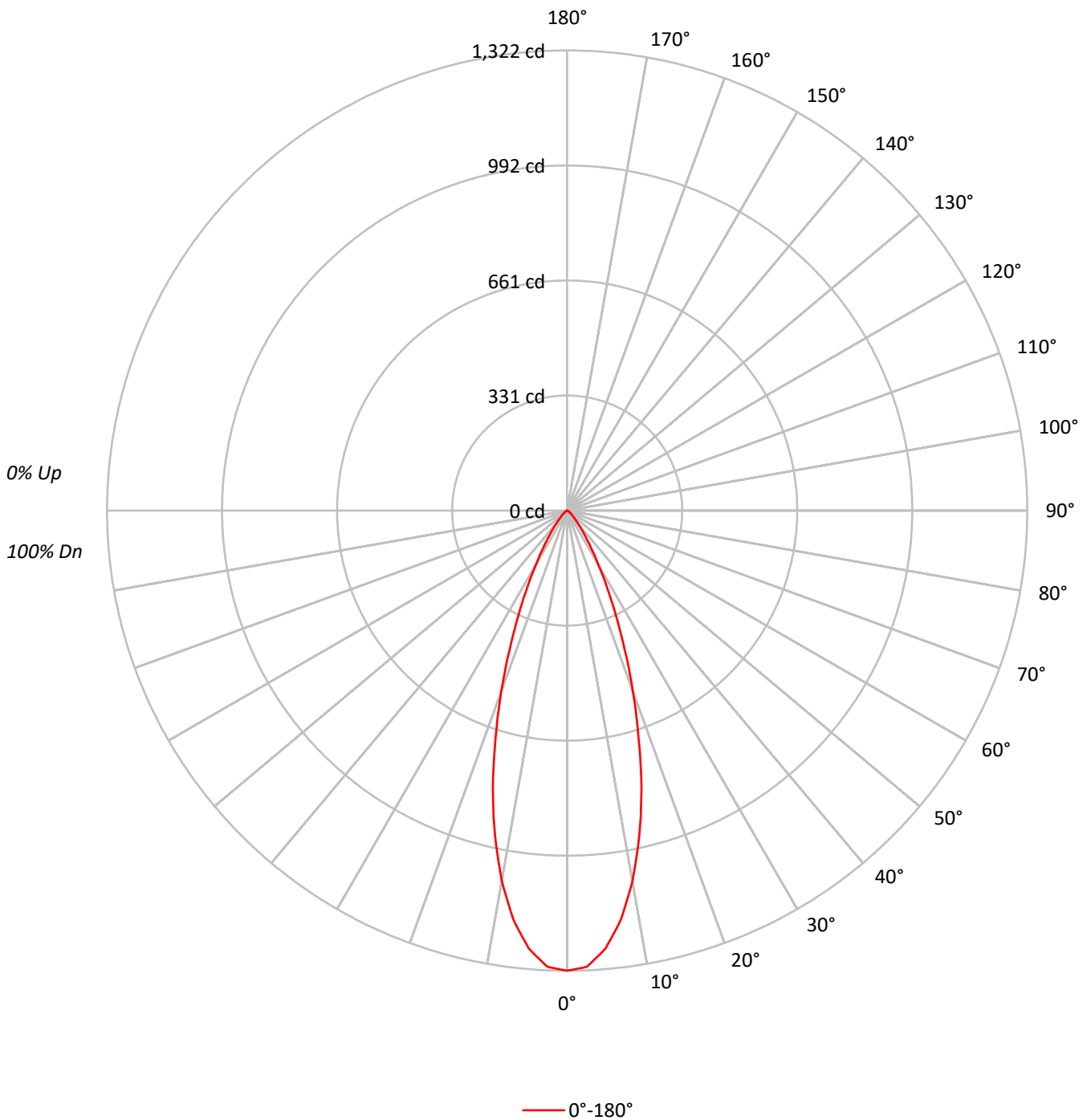
Input Watts (W): 12  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	114	112	109	107	112	109	107	106	105	104	102		102	101	99		98	97	97	95
2	109	105	101	98	107	103	100	97	100	97	95		97	95	93		94	93	91	90
3	105	99	95	91	103	98	94	90	95	92	89		93	90	88		91	88	86	85
4	100	94	89	85	99	93	88	85	90	87	84		89	85	83		87	84	82	80
5	96	89	84	80	95	88	83	80	86	82	79		85	81	78		83	80	78	76
6	92	85	79	76	91	84	79	75	82	78	75		81	77	74		80	76	74	73
7	89	81	75	72	87	80	75	72	79	74	71		78	74	71		77	73	70	69
8	85	77	72	68	84	76	72	68	75	71	68		74	71	68		74	70	67	66
9	82	74	69	65	81	73	68	65	72	68	65		72	68	65		71	67	64	63
10	79	71	66	62	78	70	65	62	70	65	62		69	65	62		68	64	62	61

**AVERAGE LUMINANCE (cd/sqm):**

	0°
0°	652100
5°	625370
10°	541020
15°	421499
20°	290034
25°	178939
30°	102433
35°	55954
40°	30915
45°	18141
50°	10746
55°	6881
60°	4934
65°	3502
70°	2885
75°	1906
80°	0
85°	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.7	19.5
10°-20°	224.8	38.2
20°-30°	153.9	26.2
30°-40°	61.6	10.5
40°-50°	21.1	3.6
50°-60°	7.7	1.3
60°-70°	3.1	0.5
70°-80°	1.1	0.2
80°-90°	0.0	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°	493.4	83.9
0°-40°	555.0	94.4
0°-60°	583.8	99.3
0°-90°	587.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	587.9	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	1322	
5°	1263	115
15°	825	225
25°	329	154
35°	93	62
45°	26	21
55°	8	8
65°	3	3
75°	1	1
85°	0	0
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	1321.7
2.5°	1311.7
5°	1262.7
7.5°	1184.8
10°	1079.9
12.5°	958.0
15°	825.2
17.5°	682.3
20°	552.4
22.5°	431.6
25°	328.7
27.5°	246.8
30°	179.8
32.5°	129.9
35°	92.9
37.5°	65.9
40°	48.0
42.5°	35.0
45°	26.0
47.5°	19.0
50°	14.0
52.5°	11.0
55°	8.0
57.5°	6.0
60°	5.0
62.5°	4.0
65°	3.0
67.5°	2.0
70°	2.0
72.5°	1.0
75°	1.0
77.5°	1.0
80°	0.0
82.5°	0.0
85°	0.0
87.5°	0.0
90°	0.0

(END OF REPORT)