

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: P189395

Luminaire Tested: **ML4D09NFL930-TIR50NFL25-TL43R2G_X_ TL44S2GX**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P189395
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27633)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML4D09NFL930-TIR50NFL25-TL43R2G_X_TL44S2GX
Description: ML4 RECESSED DOWNLIGHT WITH 25° NARROW FLOOD OPTIC WITH LENSED ROUND WHITE TRIM (OR SQUARE)
Light Source: CITIZEN 3000K
CLU711
Ballast/Driver: UNV-120-277 ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 916.4 lumens
Efficiency: N/A
Efficacy: 79.7 lumens/watt
Spacing Criteria (0/90/45): 0.39 / 0.39 / 0.37
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

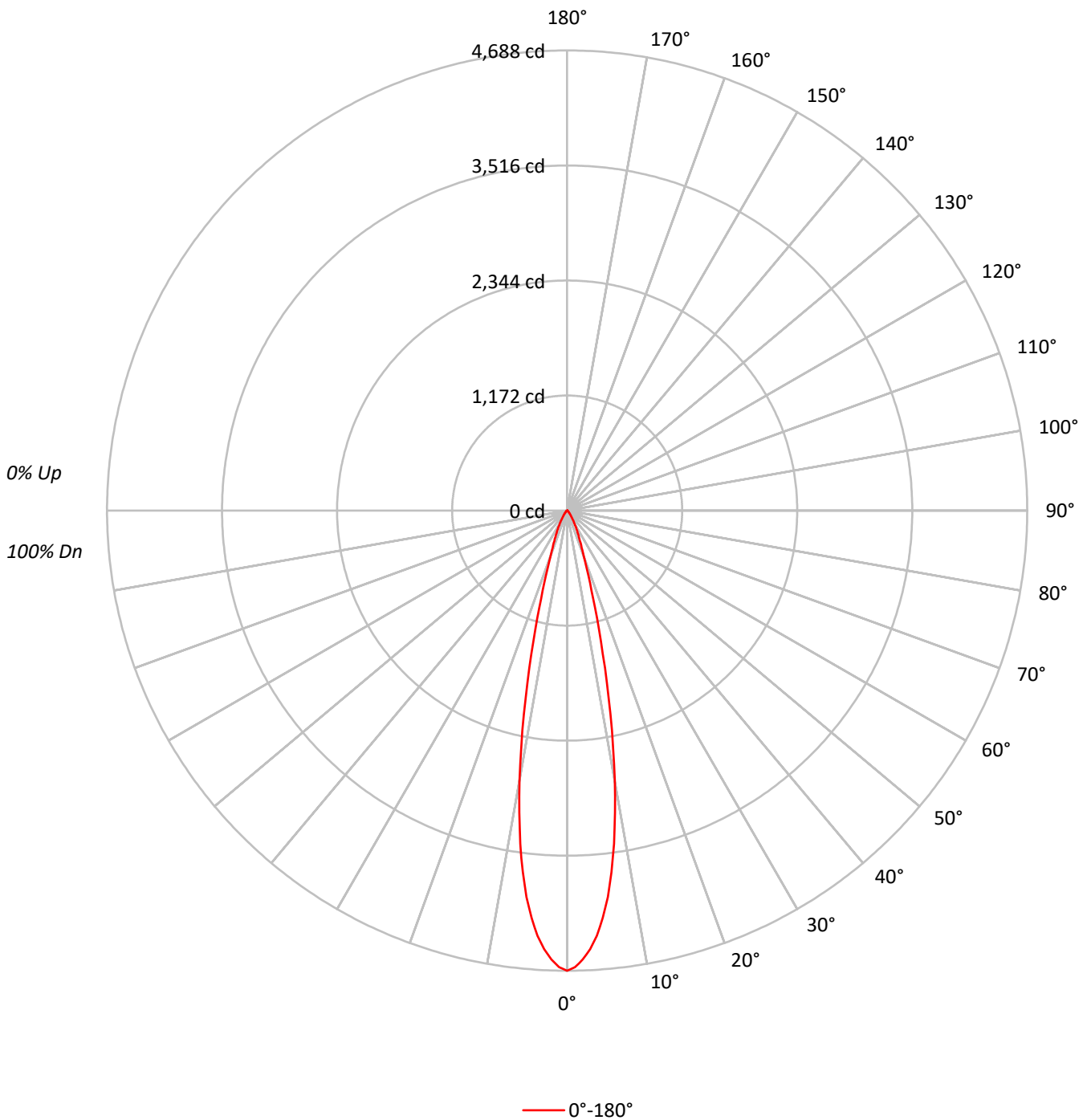
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	115	113	111	109	112	111	109	107	107	105	104		103	102	101		100	99	98	96
2	111	107	104	102	109	106	103	100	102	100	98		100	98	96		97	96	94	93
3	107	103	99	96	106	101	98	95	99	96	94		96	94	92		94	92	91	90
4	104	98	94	91	102	97	94	91	95	92	90		94	91	89		92	90	88	87
5	101	95	91	88	99	94	90	87	92	89	86		91	88	86		89	87	85	84
6	98	92	87	84	97	91	87	84	90	86	83		88	85	83		87	84	82	81
7	95	89	84	81	94	88	84	81	87	83	81		86	83	80		85	82	80	79
8	93	86	82	79	92	85	81	79	84	81	78		84	80	78		83	80	78	77
9	90	83	79	77	89	83	79	76	82	79	76		82	78	76		81	78	76	75
10	88	81	77	74	87	81	77	74	80	77	74		80	76	74		79	76	74	73

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	454181
5°	405086
10°	274422
15°	124935
20°	51990
25°	28144
30°	15538
35°	8503
40°	4919
45°	2658
50°	1613
55°	1149
60°	949
65°	894
70°	821
75°	1085
80°	1060
85°	1112



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	353.3	38.6
10°-20°	359.6	39.2
20°-30°	125.0	13.6
30°-40°	48.0	5.2
40°-50°	16.5	1.8
50°-60°	6.3	0.7
60°-70°	3.6	0.4
70°-80°	2.7	0.3
80°-90°	1.3	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°	837.9	91.4
0°-40°	885.9	96.7
0°-60°	908.8	99.2
0°-90°	916.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	916.4	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	4688	
5°	4166	353
15°	1246	360
25°	263	125
35°	72	48
45°	19	17
55°	7	6
65°	4	4
75°	3	3
85°	1	1
90°	0	



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CANDELA DISTRIBUTION (FULL):

0°	
0°	4688.3
1°	4651.4
2°	4576.6
3°	4474.6
4°	4342.4
5°	4165.6
6°	3957.6
7°	3711.8
8°	3427.1
9°	3116.2
10°	2789.7
11°	2452.5
12°	2118.3
13°	1796.6
14°	1504.2
15°	1245.7
16°	1029.0
17°	850.2
18°	703.5
19°	591.8
20°	504.3
21°	434.3
22°	379.0
23°	334.3
24°	295.4
25°	263.3
26°	233.2
27°	206.0
28°	180.7
29°	158.4
30°	138.9
32.5°	100.1
35°	71.9
37.5°	52.5
40°	38.9
42.5°	28.2
45°	19.4
47.5°	14.6
50°	10.7
52.5°	7.8
55°	6.8
57.5°	5.8
60°	4.9
62.5°	3.9
65°	3.9



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CANDELA DISTRIBUTION (continued):

	0°
67.5°	2.9
70°	2.9
72.5°	2.9
75°	2.9
77.5°	1.9
80°	1.9
82.5°	1.9
85°	1.0
87.5°	1.0
90°	0.0

(END OF REPORT)