

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: P189407

Luminaire Tested: **ML4D09NFL930-TIR50WFL55-TL43R2G_X_TL44S2GX**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P189407
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27647)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML4D09NFL930-TIR50WFL55-TL43R2G_X_TL44S2GX
Description: ML4 RECESSED DOWNLIGHT WITH 55° WIDE 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: 856.7 lumens
Efficiency: N/A
Efficacy: 75.2 lumens/watt
Spacing Criteria (0/90/45): 0.78 / 0.78 / 0.82
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

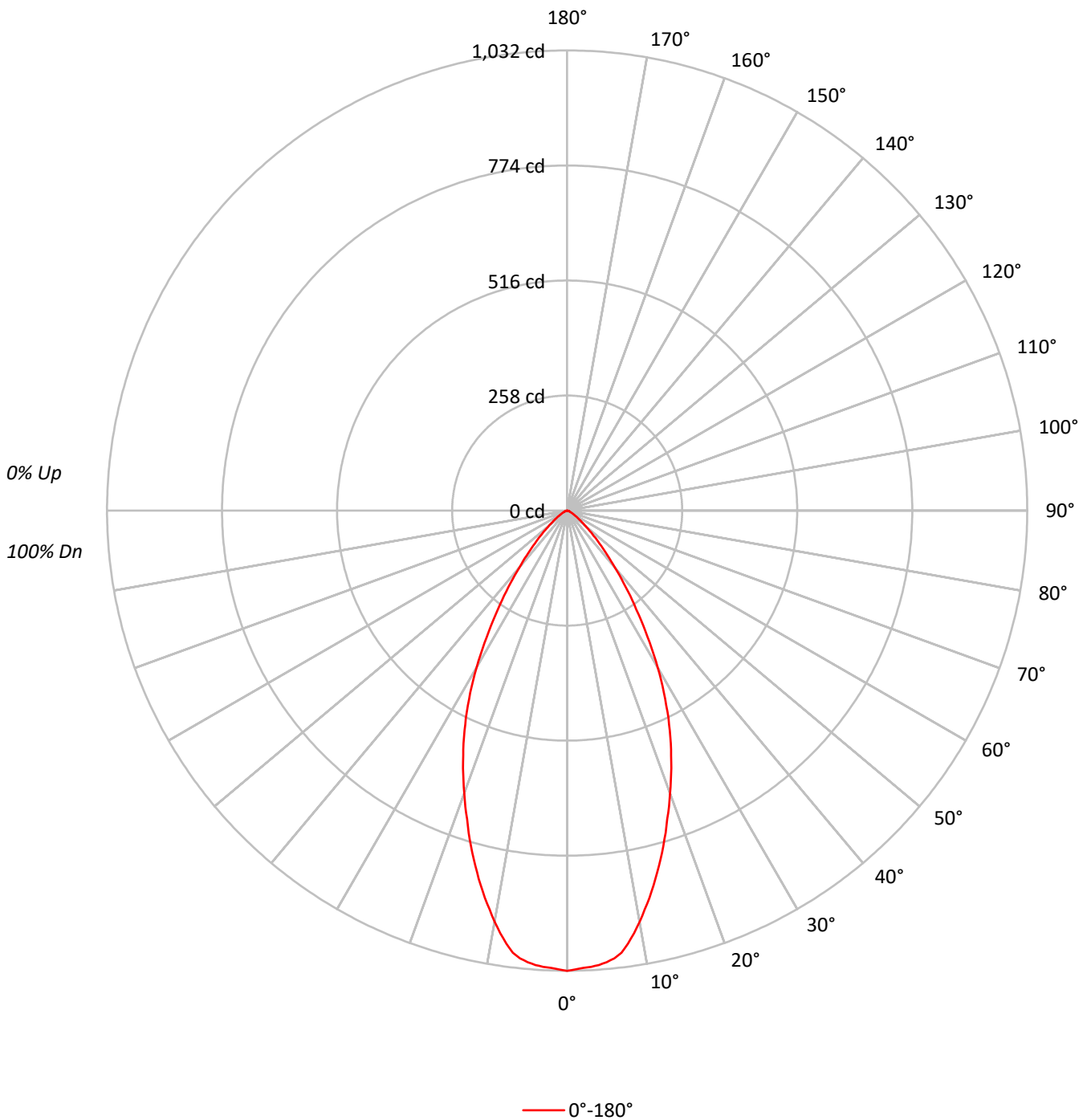
Input Watts (W): 11.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	108	105	111	108	106	104	104	102	100	100	99	97	97	96	95	93					93			
2	107	102	98	94	105	100	97	93	97	94	91	94	92	89	91	89	87	86					86			
3	101	95	90	85	99	93	89	85	91	87	83	88	85	82	86	83	81	79					79			
4	96	88	82	78	94	87	82	77	85	80	77	83	79	76	81	78	75	73					73			
5	91	82	76	72	89	81	76	71	79	74	71	78	73	70	76	72	69	68					68			
6	86	77	71	66	85	76	70	66	75	69	66	73	69	65	72	68	65	63					63			
7	82	72	66	62	80	71	66	61	70	65	61	69	64	61	68	64	60	59					59			
8	78	68	62	57	76	67	61	57	66	61	57	65	60	57	64	60	57	55					55			
9	74	64	58	54	73	63	58	54	63	57	54	62	57	53	61	56	53	52					52			
10	70	60	55	51	69	60	54	50	59	54	50	58	54	50	58	53	50	49					49			

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	127330
5°	125885
10°	117245
15°	103396
20°	88549
25°	74078
30°	57868
35°	40686
40°	26761
45°	16955
50°	10266
55°	6279
60°	3848
65°	2539
70°	1767
75°	1382
80°	710
85°	1415



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.6	11.0
10°-20°	225.0	26.3
20°-30°	247.5	28.9
30°-40°	171.0	20.0
40°-50°	77.9	9.1
50°-60°	27.7	3.2
60°-70°	9.2	1.1
70°-80°	3.1	0.4
80°-90°	0.7	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°	567.2	66.2
0°-40°	738.2	86.2
0°-60°	843.8	98.5
0°-90°	856.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	856.7	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1032	
5°	1017	95
15°	810	225
25°	544	248
35°	270	171
45°	97	78
55°	29	28
65°	9	9
75°	3	3
85°	1	1
90°	0	



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CANDELA DISTRIBUTION (FULL):

0°	
0°	1032.3
1°	1029.4
2°	1026.5
3°	1024.5
4°	1021.6
5°	1016.7
6°	1009.9
7°	999.2
8°	980.8
9°	959.4
10°	936.1
11°	911.8
12°	887.5
13°	862.2
14°	835.9
15°	809.7
16°	782.5
17°	755.3
18°	727.1
19°	701.8
20°	674.6
21°	649.3
22°	623.1
23°	596.8
24°	571.6
25°	544.3
26°	518.1
27°	489.9
28°	462.7
29°	434.5
30°	406.3
32.5°	335.4
35°	270.2
37.5°	215.8
40°	166.2
42.5°	128.3
45°	97.2
47.5°	72.9
50°	53.5
52.5°	39.9
55°	29.2
57.5°	21.4
60°	15.6
62.5°	11.7
65°	8.7



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CANDELA DISTRIBUTION (continued):

	0°
67.5°	6.8
70°	4.9
72.5°	3.9
75°	2.9
77.5°	1.9
80°	1.0
82.5°	1.0
85°	1.0
87.5°	0.0
90°	0.0

(END OF REPORT)