

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: P123676

Luminaire Tested: **EL406940-TL410SN**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P123676  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P13977)  
Test Lab: INNOVATION CENTER-P1  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: EL406940-TL410SN  
Description: HALO 4-INCH RECESSED LED DOWNLIGHT  
SATIN NICKEL REFLECTOR, DIFFUSE DROP LENS AND SATIN NICKEL TRIM RING  
Light Source: (1)SURFACE MOUNT LED, 4000K CCT, 90CRI  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

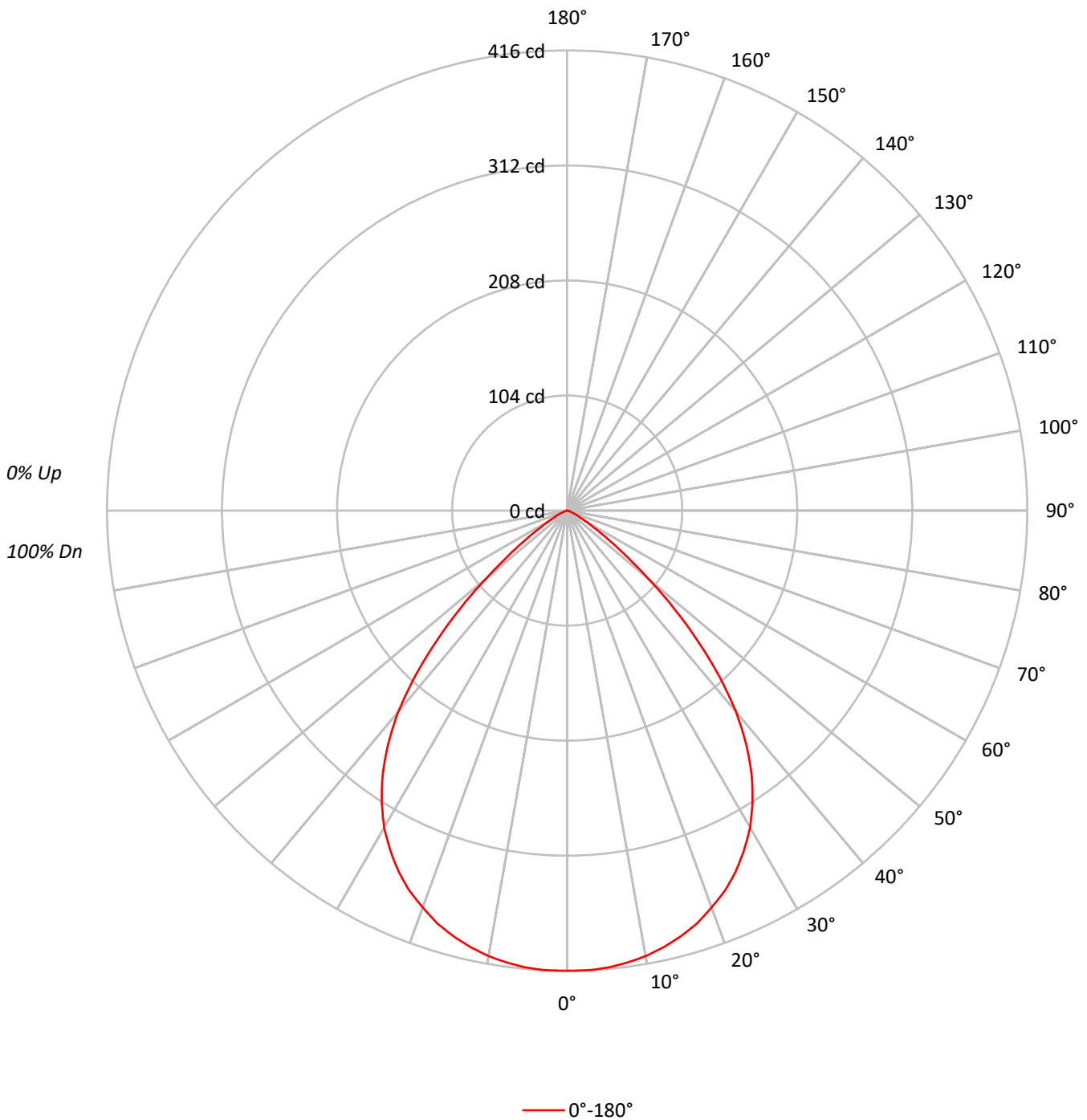
Lumens per Lamp: N/A  
Luminaire Lumens: 680.0 lumens  
Efficiency: N/A  
Efficacy: 52.3 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.18 / 1.2  
Luminous Opening: Circular (Dia: 0.29' x H: 0')  
CIE Type: Direct

Input Watts (W): 13  
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	112	109	106	104	110	107	104	102	103	101	99	99	97	96	96	94	93	91
2	105	99	95	91	103	98	93	90	94	91	88	91	88	86	89	86	84	82
3	98	91	85	80	96	89	84	79	87	82	78	84	80	77	82	78	76	74
4	92	83	76	71	90	82	75	71	79	74	70	77	73	69	75	71	68	66
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	70	65	62	60
6	81	70	63	57	79	69	62	57	67	61	57	66	60	56	64	60	56	54
7	75	64	57	52	74	64	57	52	62	56	52	61	55	51	60	55	51	49
8	71	59	52	47	69	59	52	47	58	51	47	57	51	47	55	50	47	45
9	67	55	48	43	65	55	48	43	54	47	43	53	47	43	52	47	43	41
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	39	38

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

	0°
0°	67019
5°	67081
10°	66892
15°	66415
20°	65440
25°	64064
30°	61556
35°	57172
40°	49948
45°	38231
50°	23986
55°	12611
60°	6090
65°	3621
70°	1649
75°	747
80°	0
85°	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.4	5.8
10°-20°	112.2	16.5
20°-30°	165.4	24.3
30°-40°	179.9	26.5
40°-50°	128.2	18.9
50°-60°	43.5	6.4
60°-70°	9.7	1.4
70°-80°	1.7	0.3
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°	317.0	46.6
0°-40°	496.9	73.1
0°-60°	668.6	98.3
0°-90°	680.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	680.0	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	416	
5°	415	39
15°	398	112
25°	360	165
35°	291	180
45°	168	128
55°	45	43
65°	10	10
75°	1	2
85°	0	0
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	416.0
2.5°	416.0
5°	414.8
7.5°	412.4
10°	408.9
12.5°	404.1
15°	398.2
17.5°	391.1
20°	381.7
22.5°	372.2
25°	360.4
27.5°	346.2
30°	330.9
32.5°	312.0
35°	290.7
37.5°	265.9
40°	237.5
42.5°	204.4
45°	167.8
47.5°	131.2
50°	95.7
52.5°	66.2
55°	44.9
57.5°	28.4
60°	18.9
62.5°	13.0
65°	9.5
67.5°	5.9
70°	3.5
72.5°	2.4
75°	1.2
77.5°	1.2
80°	0.0
82.5°	0.0
85°	0.0
87.5°	0.0
90°	0.0

(END OF REPORT)