

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: P20348

Luminaire Tested: **EL405830-TL401BB**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P20348  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: EL405830-TL401BB  
Description: HALO 4 INCH RECESSED LED DOWNLIGHT WITH BLACK BAFFLED REFLECTOR EL405830-TL401BB  
Light Source: (1)SURFACE MOUNT LED  
14 WATTS  
Ballast/Driver: 120 VOLT ELECTRONIC DRIVER

**Summary**

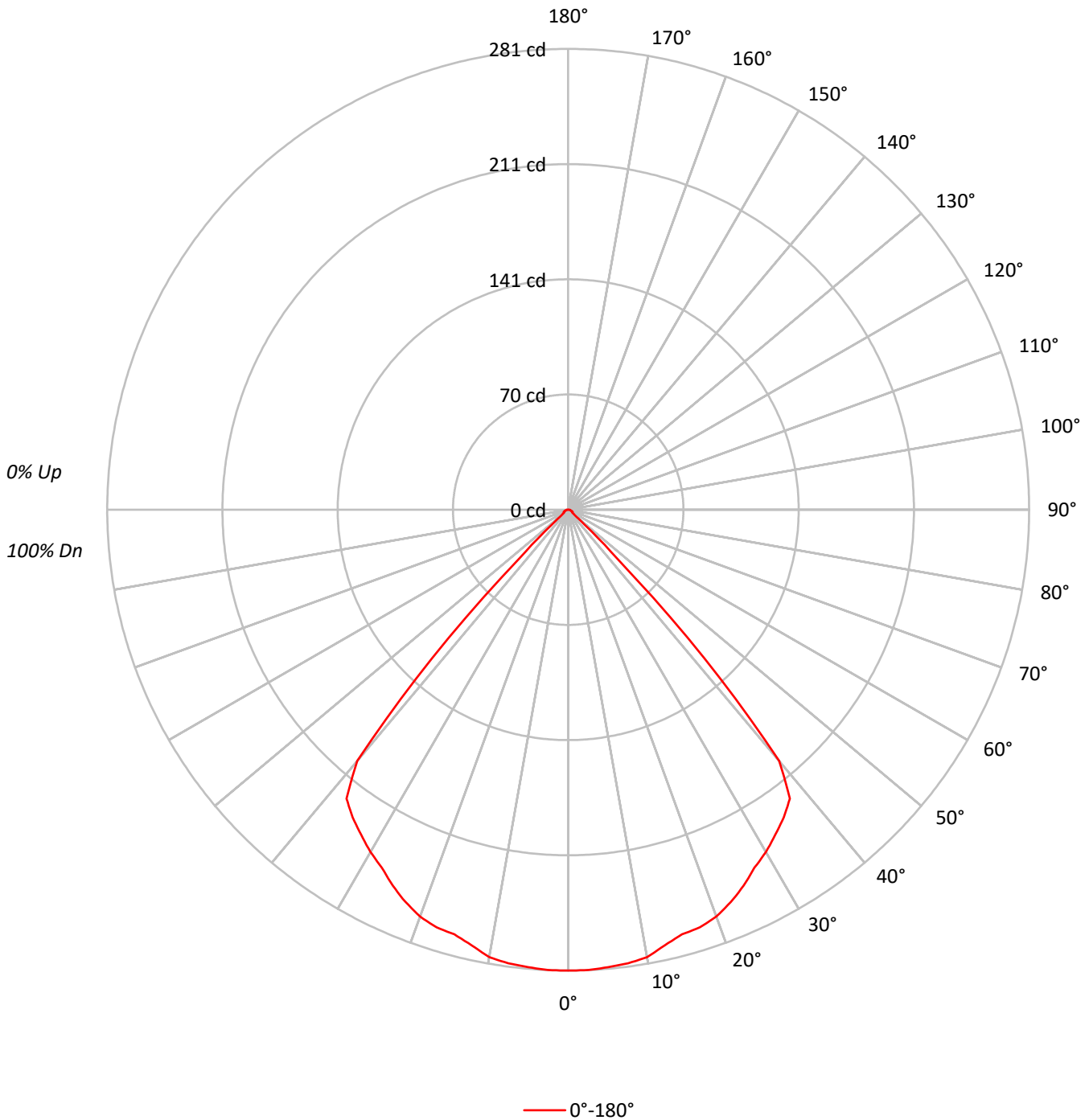
Lumens per Lamp: 421 (1 lamp)  
Luminaire Lumens: 421.8 lumens  
Efficiency: 100.2%  
Efficacy: 30.1 lumens/watt  
Spacing Criteria (0/90/45): 1.28 / 1.28 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 14  
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



TEST NUMBER: P20348  
CATALOG NUMBER: EL405830-TL401BB

### Luminous Intensity Polar Plot





TEST NUMBER: P20348

CATALOG NUMBER: EL405830-TL401BB

**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	117	117	117	117	111	111	111		107	107	107		102	102	102	100
1	113	110	107	105	110	108	105	103	104	102	100		100	98	97		96	95	94	92
2	107	101	97	93	104	99	95	92	96	93	90		93	90	88		90	88	86	84
3	100	93	87	83	98	92	86	82	89	85	81		86	83	80		84	81	78	77
4	94	86	80	75	92	85	79	74	82	77	73		80	76	72		78	75	72	70
5	89	79	73	68	87	78	72	67	76	71	67		75	70	66		73	69	66	64
6	83	73	66	62	82	72	66	61	71	65	61		69	64	61		68	64	60	58
7	78	68	61	56	77	67	61	56	66	60	56		65	59	56		63	59	55	54
8	74	63	56	52	72	62	56	52	61	55	51		60	55	51		59	54	51	49
9	70	59	52	48	68	58	52	47	57	51	47		56	51	47		55	50	47	45
10	66	55	48	44	65	54	48	44	53	48	44		53	47	44		52	47	43	42

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

	0°
0°	27222
5°	27229
10°	27248
15°	26878
20°	27216
25°	27043
30°	26959
35°	27082
40°	25292
45°	5754
50°	754
55°	507
60°	581
65°	688
70°	566
75°	374
80°	558
85°	1112



TEST NUMBER: P20348

CATALOG NUMBER: EL405830-TL401BB

**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	26.6	6.3	6.3
10°-20°	76.2	18.1	18.1
20°-30°	116.6	27.6	27.7
30°-40°	141.9	33.6	33.7
40°-50°	52.3	12.4	12.4
50°-60°	3.1	0.7	0.7
60°-70°	2.6	0.6	0.6
70°-80°	1.4	0.3	0.3
80°-90°	1.0	0.2	0.2
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-30°	219.4	52.0	52.1
0°-40°	361.4	85.7	85.8
0°-60°	416.8	98.8	99.0
0°-90°	421.8	100.0	100.2
90°-120°	0.0	0.0	0.0
90°-150°	0.0	0.0	0.0
90°-180°	0.0	0.0	0.0
0°-180°	421.8	100.0	100.2

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	281	
5°	280	27
15°	268	76
25°	253	117
35°	229	142
45°	42	52
55°	3	3
65°	3	3
75°	1	1
85°	1	1
90°	0	



TEST NUMBER: P20348

CATALOG NUMBER: EL405830-TL401BB

**CANDELA DISTRIBUTION (FULL):**

	0°
0°	281
2.5°	281
5°	280
7.5°	279
10°	277
12.5°	272
15°	268
17.5°	267
20°	264
22.5°	259
25°	253
27.5°	246
30°	241
32.5°	235
35°	229
37.5°	222
40°	200
42.5°	123
45°	42
47.5°	14
50°	5
52.5°	4
55°	3
57.5°	3
60°	3
62.5°	3
65°	3
67.5°	2
70°	2
72.5°	2
75°	1
77.5°	1
80°	1
82.5°	1
85°	1
87.5°	1
90°	0

(END OF REPORT)