

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: P20072

Luminaire Tested: **EL405830-TL402WHS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P20072  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: EL405830-TL402WHS  
Description: HALO 4 INCH RECESSED LED DOWNLIGHT WITH WHITE PAINTED REFLECTOR IN TRIM WITH PRISMATIC LENS IN UNIT 1 LED MODULE EL405830  
Light Source: (1)SURFACE MOUNT LED  
14 WATTS  
Ballast/Driver: 120 VOLT ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: 588 (1 lamp)  
Luminaire Lumens: 590.3 lumens  
Efficiency: 100.4%  
Efficacy: 0.6 lumens/watt  
Spacing Criteria (0/90/45): 0.64 / 0.64 / 0.82  
Luminous Opening: Circular (Dia: 2' x H: 0')  
CIE Type: Direct

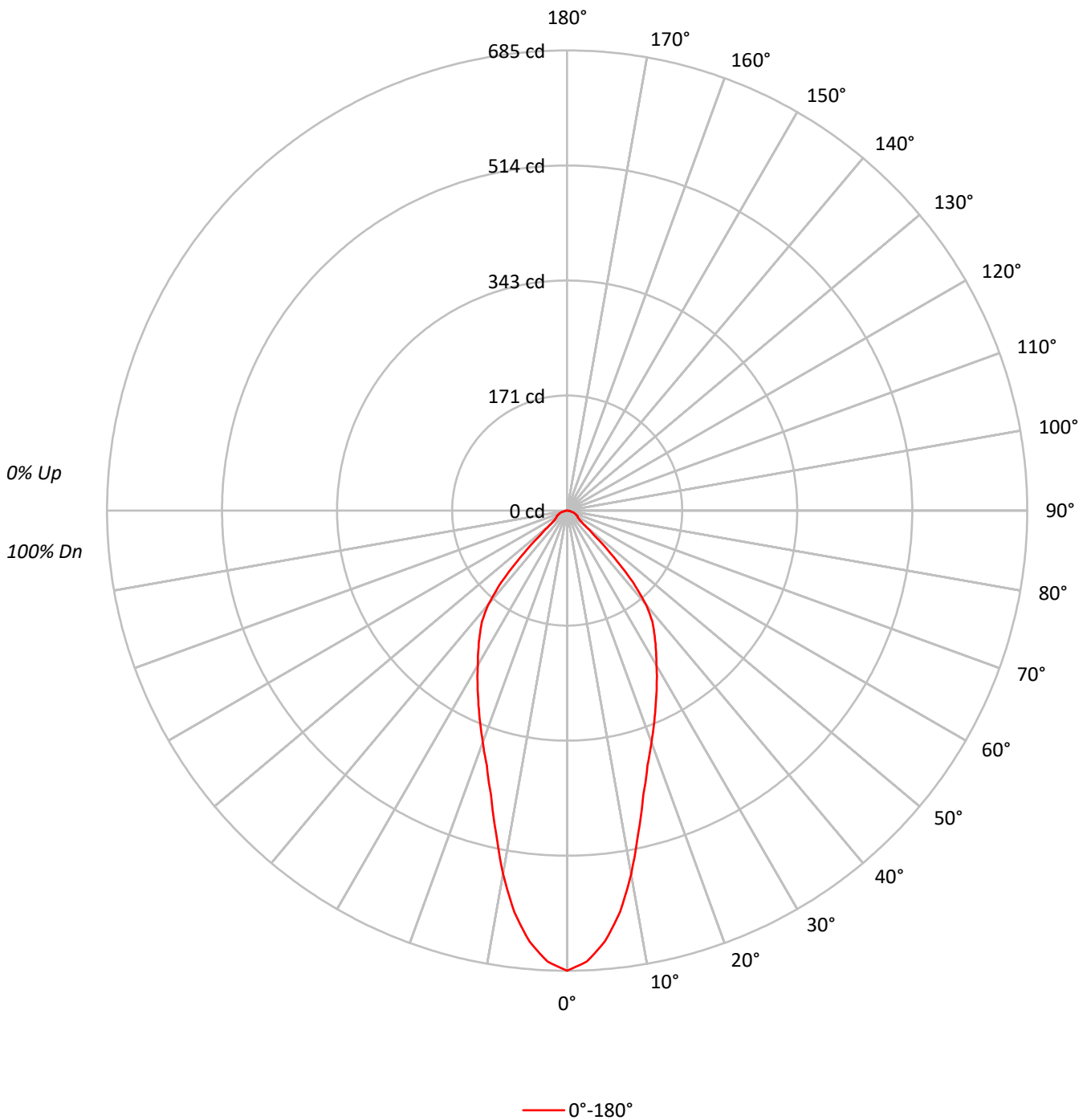
Input Watts (W): 999  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	120	120	120	120	117	117	117	117	112	112	112	107	107	107	102	102	102	100
1	113	110	107	104	110	107	105	102	103	101	99	100	98	96	96	95	94	92
2	106	101	96	92	104	99	94	91	95	92	89	92	89	87	90	87	85	83
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76
4	94	85	79	74	92	84	78	74	82	77	73	80	75	72	78	74	71	69
5	89	79	72	67	87	78	72	67	76	71	66	74	70	66	73	69	65	64
6	83	73	67	62	82	73	66	62	71	65	61	69	64	61	68	64	60	59
7	79	68	62	57	77	68	61	57	66	61	56	65	60	56	64	59	56	54
8	75	64	57	53	73	63	57	53	62	56	52	61	56	52	60	55	52	50
9	71	60	53	49	69	59	53	49	58	53	49	57	52	48	57	52	48	47
10	67	56	50	46	66	56	50	46	55	49	45	54	49	45	53	49	45	44

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

	0°
0°	2347
5°	2215
10°	1910
15°	1554
20°	1338
25°	1183
30°	1052
35°	949
40°	818
45°	475
50°	181
55°	125
60°	123
65°	122
70°	120
75°	93
80°	79
85°	79



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	58.5	9.9	9.9
10°-20°	123.8	21.0	21.1
20°-30°	144.2	24.4	24.5
30°-40°	141.2	23.9	24.0
40°-50°	77.4	13.1	13.2
50°-60°	20.3	3.4	3.4
60°-70°	14.8	2.5	2.5
70°-80°	7.9	1.3	1.3
80°-90°	2.2	0.4	0.4
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°	326.4	55.3	55.5
0°-40°	467.6	79.2	79.5
0°-60°	565.3	95.8	96.1
0°-90°	590.3	100.0	100.4
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°	590.3	100.0	100.4

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	685	
5°	644	58
15°	438	124
25°	313	144
35°	227	141
45°	98	77
55°	21	20
65°	15	15
75°	7	8
85°	2	2
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	685
2.5°	672
5°	644
7.5°	603
10°	549
12.5°	490
15°	438
17.5°	398
20°	367
22.5°	339
25°	313
27.5°	289
30°	266
32.5°	246
35°	227
37.5°	208
40°	183
42.5°	145
45°	98
47.5°	57
50°	34
52.5°	25
55°	21
57.5°	19
60°	18
62.5°	17
65°	15
67.5°	13
70°	12
72.5°	10
75°	7
77.5°	5
80°	4
82.5°	3
85°	2
87.5°	1
90°	0

(END OF REPORT)