

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: P20079

Luminaire Tested: **EL405835-TL402HS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P20079  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: EL405835-TL402HS  
Description: HALO 4 INCH RECESSED LED DOWNLIGHT WITH HAZE SEMI-SPECULAR REFLECTOR AND PRISMATIC LENS IN TRIM UNIT 1 LED MODULE EL405835  
Light Source: (1)SURFACE MOUNT LED  
14 WATTS  
Ballast/Driver: 120 VOLT ELECTRONIC DRIVER

**Summary**

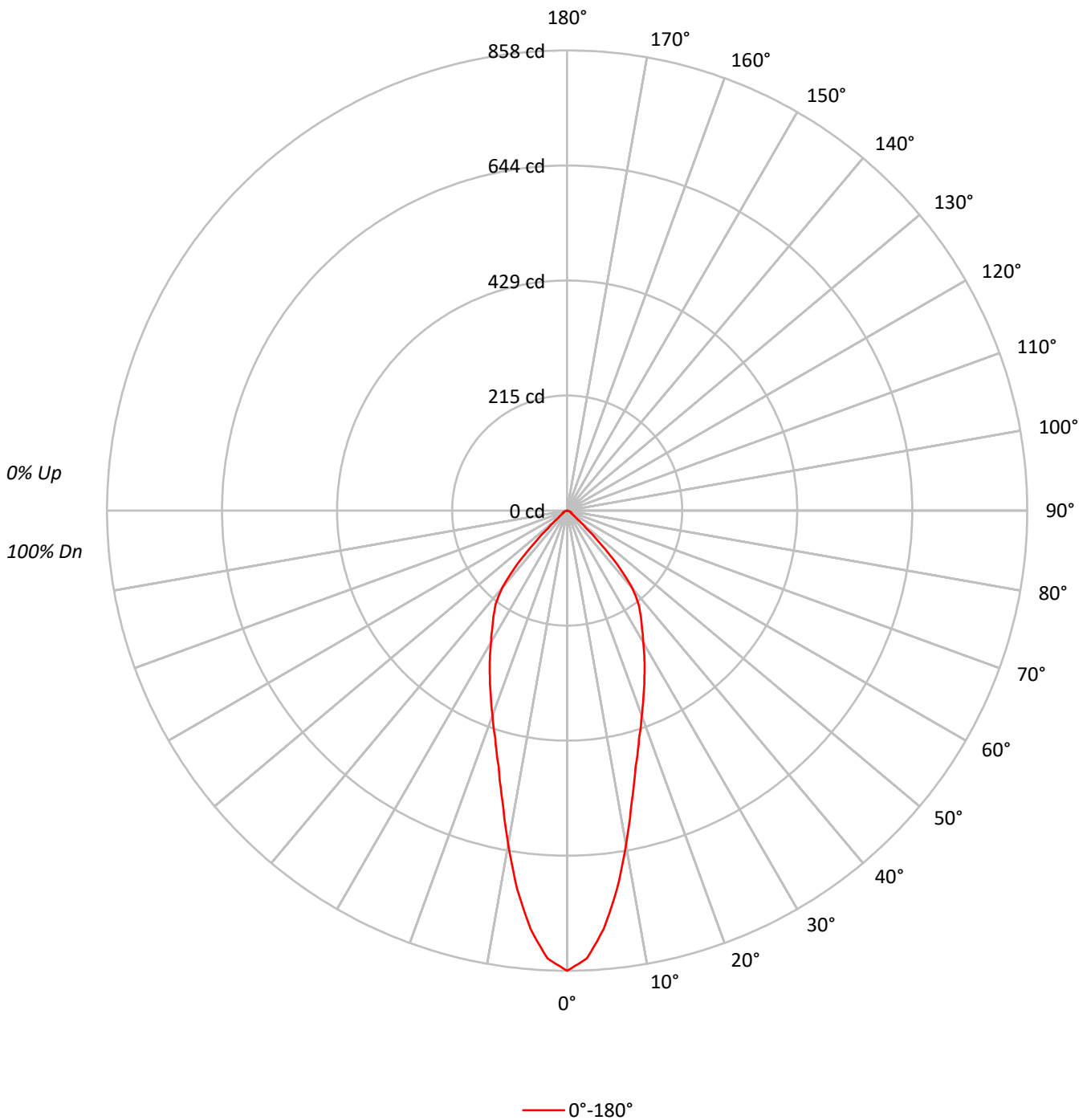
Lumens per Lamp: 611 (1 lamp)  
Luminaire Lumens: 612.5 lumens  
Efficiency: 100.2%  
Efficacy: 43.4 lumens/watt  
Spacing Criteria (0/90/45): 0.56 / 0.56 / 0.74  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 14.1  
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	119	119	119	119	117	117	117	117	111	111	111		107	107	107		102	102	102	100
1	113	110	108	105	111	108	106	104	104	102	100		100	99	97		97	96	95	93
2	107	102	98	94	105	100	96	93	97	94	91		94	91	89		91	89	87	85
3	101	94	89	85	99	93	88	84	90	86	83		88	84	81		85	83	80	78
4	96	87	82	77	94	86	81	76	84	79	76		82	78	75		80	77	74	72
5	90	81	75	70	89	80	75	70	79	73	69		77	72	69		75	71	68	67
6	85	76	69	65	84	75	69	65	74	68	64		72	67	64		71	67	63	62
7	81	71	65	60	79	70	64	60	69	63	60		68	63	59		67	62	59	57
8	77	67	60	56	75	66	60	56	65	59	55		64	59	55		63	58	55	53
9	73	63	56	52	72	62	56	52	61	56	52		60	55	52		59	55	51	50
10	69	59	53	49	68	59	53	49	58	52	49		57	52	48		56	52	48	47

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

	0°
0°	105831
5°	96949
10°	79157
15°	63082
20°	53424
25°	46409
30°	40449
35°	35988
40°	30432
45°	16048
50°	4989
55°	2581
60°	2220
65°	2043
70°	1803
75°	953
80°	710
85°	1415



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	69.9	11.4	11.4
10°-20°	139.6	22.8	22.8
20°-30°	156.9	25.6	25.7
30°-40°	148.6	24.3	24.3
40°-50°	74.3	12.1	12.2
50°-60°	12.5	2.0	2.1
60°-70°	6.9	1.1	1.1
70°-80°	2.6	0.4	0.4
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°	366.5	59.8	60.0
0°-40°	515.1	84.1	84.3
0°-60°	602.0	98.3	98.5
0°-90°	612.5	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°	612.5	100.0	100.2

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	858	
5°	783	70
15°	494	140
25°	341	157
35°	239	149
45°	92	74
55°	12	13
65°	7	7
75°	2	3
85°	1	1
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

0°	
0°	858
2.5°	836
5°	783
7.5°	712
10°	632
12.5°	556
15°	494
17.5°	446
20°	407
22.5°	372
25°	341
27.5°	312
30°	284
32.5°	260
35°	239
37.5°	218
40°	189
42.5°	146
45°	92
47.5°	48
50°	26
52.5°	16
55°	12
57.5°	11
60°	9
62.5°	8
65°	7
67.5°	6
70°	5
72.5°	4
75°	2
77.5°	1
80°	1
82.5°	1
85°	1
87.5°	1
90°	0

(END OF REPORT)