

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: P20071

Luminaire Tested: **EL405830-TL402HS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P20071  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: EL405830-TL402HS  
Description: HALO 4 INCH RECESSED LED DOWNLIGHT WITH HAZE SEMI-SPECULAR REFLECTOR AND PRISMATIC LENS IN TRIM UNIT 1 LED MODULE EL405830  
Light Source: (1)SURFACE MOUNT LED  
14 WATTS  
Ballast/Driver: 120 VOLT ELECTRONIC DRIVER

**Summary**

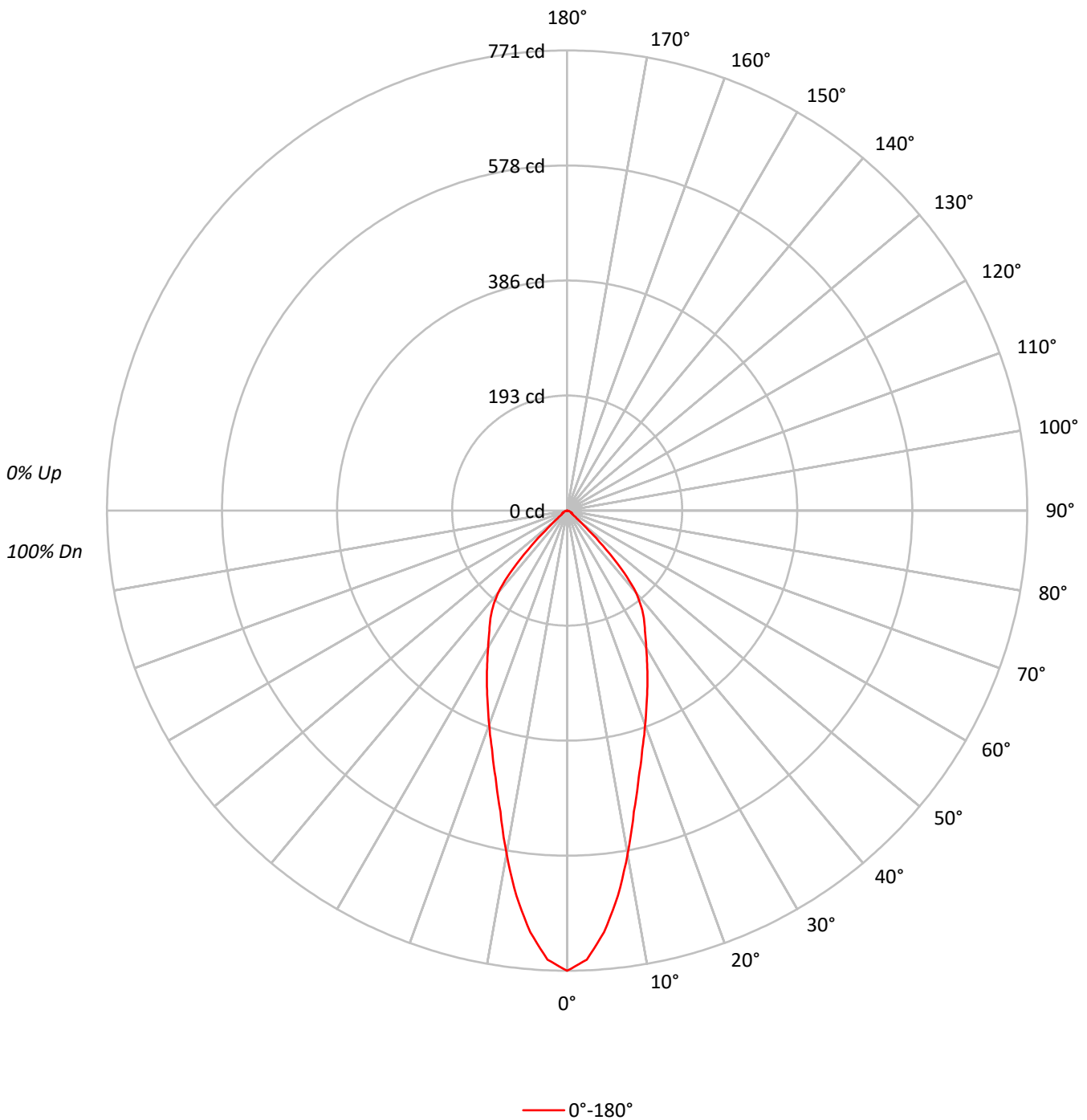
Lumens per Lamp: 574 (1 lamp)  
Luminaire Lumens: 575.6 lumens  
Efficiency: 100.3%  
Efficacy: 5756.1 lumens/watt  
Spacing Criteria (0/90/45): 0.59 / 0.59 / 0.76  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 0.1  
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	97	94	105	100	96	93	97	93	91		94	91	89		91	89	87	85
3	101	94	89	84	99	93	88	84	90	86	82		88	84	81		85	82	80	78
4	95	87	81	77	94	86	81	76	84	79	75		82	78	74		80	76	74	72
5	90	81	75	70	88	80	74	70	78	73	69		77	72	69		75	71	68	66
6	85	76	69	65	84	75	69	64	73	68	64		72	67	63		70	66	63	61
7	81	71	64	60	79	70	64	60	69	63	59		67	63	59		66	62	59	57
8	76	66	60	55	75	66	60	55	65	59	55		63	58	55		62	58	55	53
9	73	62	56	52	71	62	56	52	61	55	51		60	55	51		59	54	51	50
10	69	59	52	48	68	58	52	48	57	52	48		57	52	48		56	51	48	46

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

	0°
0°	95099
5°	87786
10°	73145
15°	59124
20°	50142
25°	43279
30°	37743
35°	33880
40°	28983
45°	16223
50°	4797
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°	63.7	11.1	11.1
10°-20°	130.5	22.7	22.7
20°-30°	146.5	25.4	25.5
30°-40°	139.6	24.3	24.3
40°-50°	73.1	12.7	12.7
50°-60°	12.0	2.1	2.1
60°-70°	6.9	1.2	1.2
70°-80°	2.4	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°	340.7	59.2	59.4
0°-40°	480.3	83.4	83.7
0°-60°	565.4	98.2	98.5
0°-90°	575.6	100.0	100.3
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°	575.6	100.0	100.3

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	771	
5°	709	64
15°	463	130
25°	318	146
35°	225	140
45°	93	73
55°	12	12
65°	7	7
75°	2	2
85°	1	1
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	771
2.5°	753
5°	709
7.5°	651
10°	584
12.5°	517
15°	463
17.5°	419
20°	382
22.5°	348
25°	318
27.5°	290
30°	265
32.5°	243
35°	225
37.5°	205
40°	180
42.5°	142
45°	93
47.5°	49
50°	25
52.5°	15
55°	12
57.5°	10
60°	9
62.5°	8
65°	7
67.5°	6
70°	5
72.5°	3
75°	2
77.5°	1
80°	1
82.5°	1
85°	1
87.5°	1
90°	0

(END OF REPORT)