

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: P85081

Luminaire Tested: **EL405840-TLS408TBZBB**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P85081  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: EL405840-TLS408TBZBB  
Description: \*\*\*THIS IS A REVISION OF P21159 TO UPDATE CATALOG NUMBER\*\*\*HALO 4 INCH RECESSED FIXTURE WITH 4 INCH TUSCAN BRONZE SQUARE TRIM, BLACK SQUARE BAFFLE, SOLITE LENS AND UPPER TRIM REFLECTOR. ---ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORS CREATED USING A 500 WATT, NIST TRACEABLE, OMNI-DIRECTIONAL LAB LUMEN STANDARD IN THE GONIOPHOTOMETER WITH TEST DISTANCE OF 28.75 FEET----

Light Source: (1) SMT LED 4000K  
(1) 221 14 WATTS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: 592 (1 lamp)  
Luminaire Lumens: 591.7 lumens  
Efficiency: 100.0%  
Efficacy: 43.2 lumens/watt  
Spacing Criteria (0/90/45): 0.6 / 0.6 / 0.66  
Luminous Opening: Vertical Cylinder (Dia: 0.33' x H: 0.1')  
CIE Type: Direct

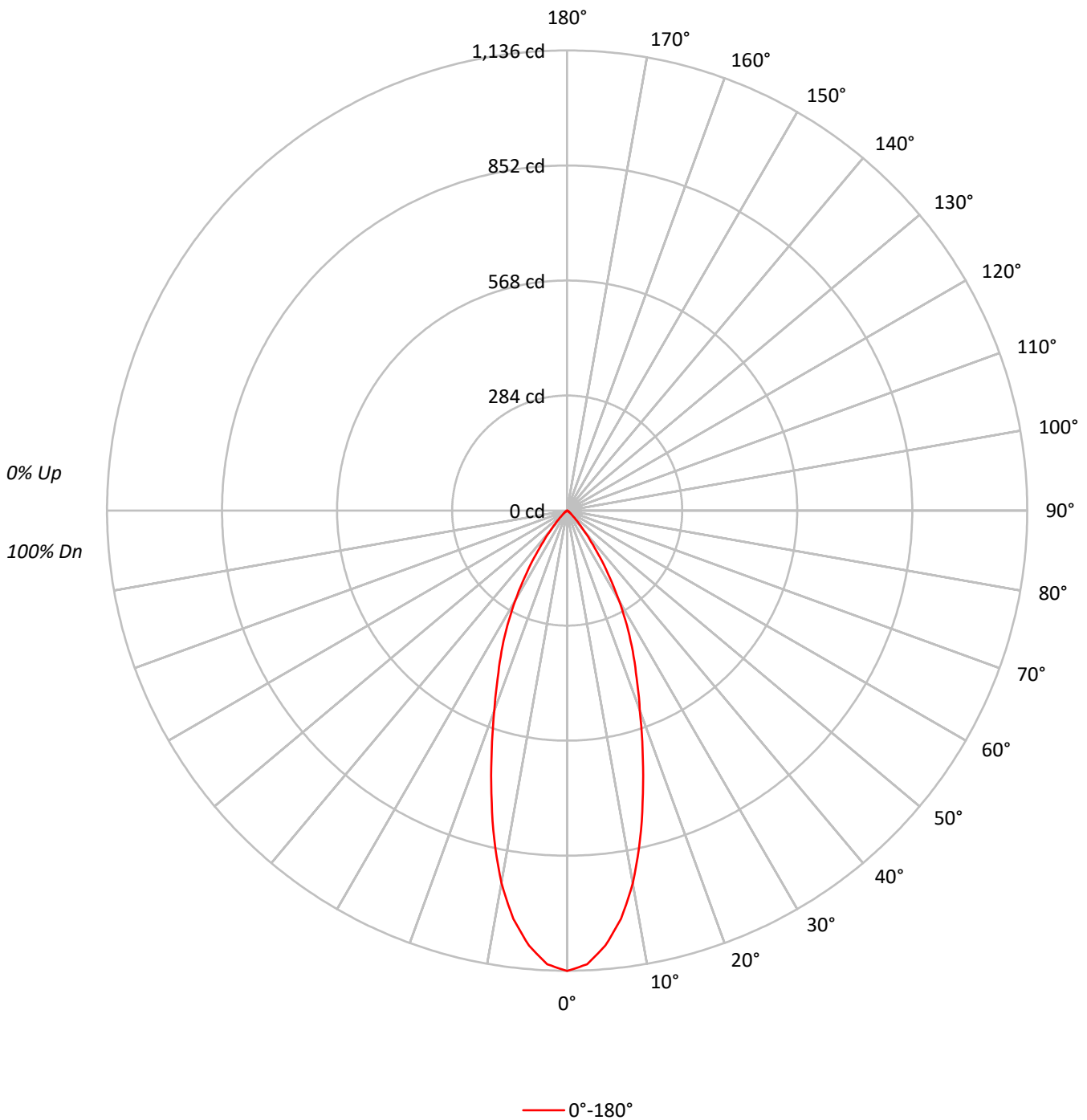
Input Watts (W): 13.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 0.12010  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	114	111	109	107	112	109	107	105	105	104	102		102	100	99		98	97	96	94
2	109	104	101	98	107	103	99	97	100	97	94		97	94	92		94	92	91	89
3	104	98	94	90	102	97	93	89	94	91	88		92	89	87		90	87	85	84
4	99	93	88	84	98	92	87	83	89	85	82		87	84	81		86	83	80	79
5	95	88	82	78	94	87	82	78	85	81	77		83	80	77		82	79	76	75
6	91	83	77	74	90	82	77	73	81	76	73		79	75	72		78	75	72	71
7	87	79	73	69	86	78	73	69	77	72	69		76	72	69		75	71	68	67
8	83	75	69	66	82	74	69	66	73	69	65		72	68	65		71	68	65	63
9	80	71	66	62	79	71	66	62	70	65	62		69	65	62		68	64	62	60
10	77	68	63	59	76	68	63	59	67	62	59		66	62	59		65	62	59	58

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

	0°
0°	140182
5°	129182
10°	109612
15°	83730
20°	60478
25°	44233
30°	29792
35°	16858
40°	7779
45°	3193
50°	1305
55°	612
60°	327
65°	176
70°	0
75°	0
80°	0
85°	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	98.4	16.6	16.6
10°-20°	199.7	33.7	33.7
20°-30°	174.6	29.5	29.5
30°-40°	90.9	15.4	15.4
40°-50°	22.6	3.8	3.8
50°-60°	4.5	0.8	0.8
60°-70°	1.1	0.2	0.2
70°-80°	0.0	0.0	0.0
80°-90°	0.0	0.0	0.0
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°	472.7	79.9	79.8
0°-40°	563.6	95.2	95.2
0°-60°	590.6	99.8	99.8
0°-90°	591.7	100.0	100.0
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°	591.7	100.0	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	1136	
5°	1078	98
15°	723	200
25°	383	175
35°	142	91
45°	25	23
55°	4	5
65°	1	1
75°	0	0
85°	0	0
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

0°	
0°	1136.5
2.5°	1121.1
5°	1078.2
7.5°	1016.6
10°	934.1
12.5°	831.8
15°	722.8
17.5°	618.3
20°	524.8
22.5°	447.8
25°	382.9
27.5°	319.1
30°	255.3
32.5°	195.8
35°	141.9
37.5°	96.8
40°	63.8
42.5°	40.7
45°	25.3
47.5°	16.5
50°	9.9
52.5°	6.6
55°	4.4
57.5°	3.3
60°	2.2
62.5°	1.1
65°	1.1
67.5°	1.1
70°	0.0
72.5°	0.0
75°	0.0
77.5°	0.0
80°	0.0
82.5°	0.0
85°	0.0
87.5°	0.0
90°	0.0

(END OF REPORT)