

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: P21176

Luminaire Tested: **ELSG405830TBZ(25 deg Beam-0 deg tilt)**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P21176  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: ELSG405830TBZ(25 deg Beam-0 deg tilt)  
Description: HALO 4 INCH RECESSED FIXTURE WITH SQUARE TUSCAN BRONZE TRIM, TUSCAN BRONZE GIMBAL, NARROW UPPER REFLECTOR AND CLEAR LENS .  
---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 3000K  
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Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: 602 (1 lamp)  
Luminaire Lumens: 604.7 lumens  
Efficiency: 100.5%  
Efficacy: 44.5 lumens/watt  
Spacing Criteria (0/90/45): 0.38 / 0.38 / 0.42  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

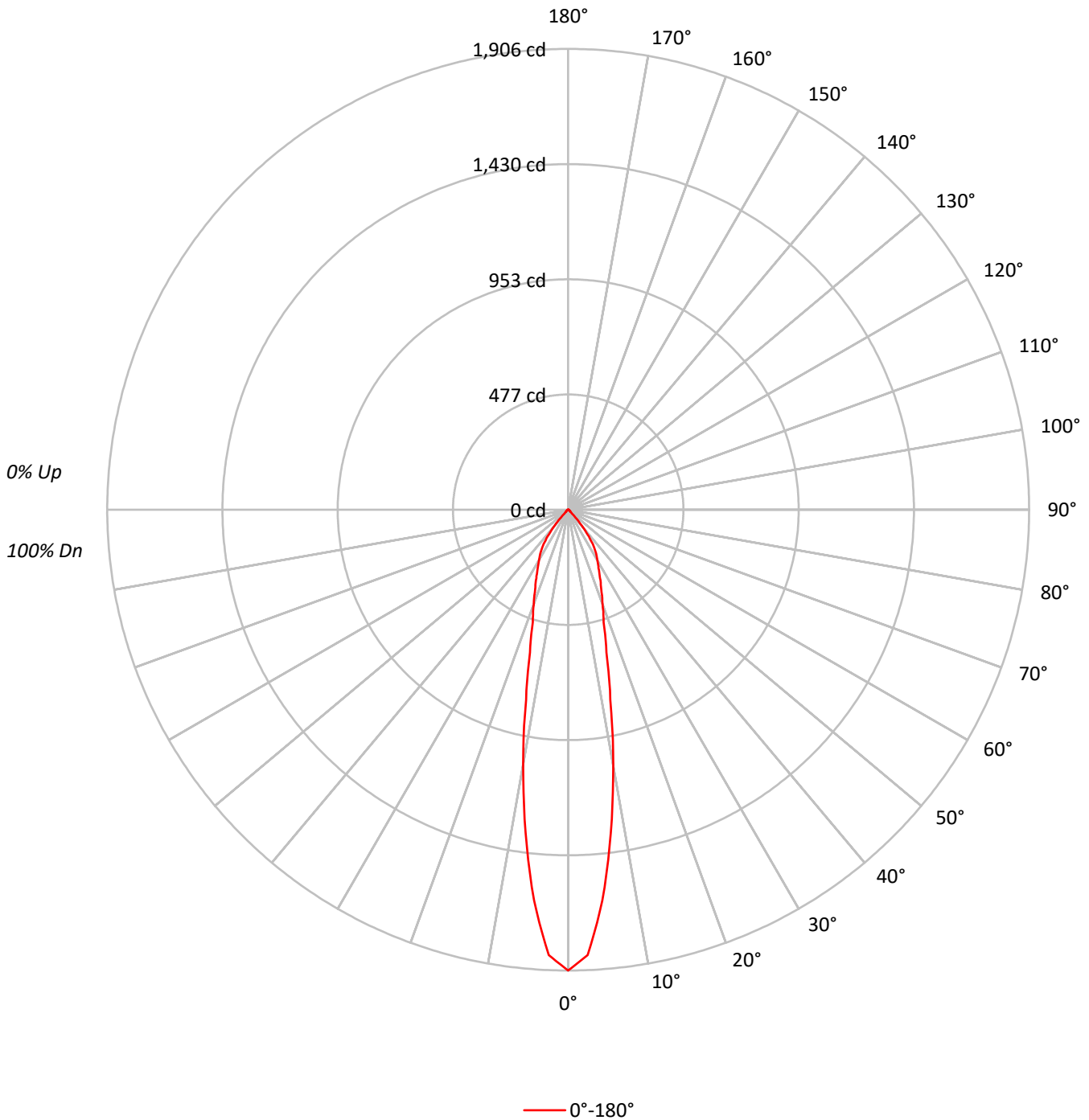
Input Watts (W): 13.6  
Input Voltage (V): NR  
Input Current (Ain): 0.1191  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10
RCR																				
0	120	120	120	120	117	117	117	117	112	112	112	107	107	107	103	103	103	100	100	100
1	115	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	95	95
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	93	91	89	89	89
3	105	99	94	91	103	97	93	90	95	91	89	92	90	87	90	88	86	84	84	84
4	100	93	88	84	98	92	88	84	90	86	83	88	85	82	86	83	81	80	80	80
5	96	88	83	79	94	87	82	79	86	81	78	84	80	77	83	79	77	75	75	75
6	92	84	78	75	90	83	78	74	82	77	74	80	76	73	79	76	73	72	72	72
7	88	80	74	71	87	79	74	70	78	73	70	77	73	70	76	72	69	68	68	68
8	85	76	71	67	83	75	70	67	74	70	67	73	69	66	73	69	66	65	65	65
9	81	73	67	64	80	72	67	64	71	67	63	70	66	63	70	66	63	62	62	62
10	78	70	64	61	77	69	64	61	68	64	61	68	63	61	67	63	60	59	59	59

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

	0°
0°	235097
5°	200955
10°	134392
15°	78023
20°	54605
25°	42462
30°	34467
35°	27556
40°	14975
45°	3663
50°	2303
55°	1505
60°	493
65°	584
70°	721
75°	477
80°	710
85°	1415



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	137.1	22.7	22.8
10°-20°	178.4	29.5	29.6
20°-30°	144.6	23.9	24.0
30°-40°	108.8	18.0	18.1
40°-50°	26.0	4.3	4.3
50°-60°	6.2	1.0	1.0
60°-70°	1.7	0.3	0.3
70°-80°	1.2	0.2	0.2
80°-90°	0.7	0.1	0.1
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°	460.1	76.1	76.4
0°-40°	568.9	94.1	94.5
0°-60°	601.1	99.4	99.9
0°-90°	604.7	100.0	100.5
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°	604.7	100.0	100.5

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	1906	
5°	1623	137
15°	611	178
25°	312	145
35°	183	109
45°	21	26
55°	7	6
65°	2	2
75°	1	1
85°	1	1
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	1906
2.5°	1844
5°	1623
7.5°	1348
10°	1073
12.5°	806
15°	611
17.5°	488
20°	416
22.5°	357
25°	312
27.5°	272
30°	242
32.5°	214
35°	183
37.5°	140
40°	93
42.5°	51
45°	21
47.5°	14
50°	12
52.5°	10
55°	7
57.5°	4
60°	2
62.5°	2
65°	2
67.5°	1
70°	2
72.5°	1
75°	1
77.5°	1
80°	1
82.5°	1
85°	1
87.5°	0
90°	0

(END OF REPORT)