

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: P20334

Luminaire Tested: **EL405840-TL400SN**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P20334  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: EL405840-TL400SN  
Description: HALO 4 INCH RECESSED LED DOWNLIGHT WITH SATIN NICKEL FINISH  
REFLECTOR EL405840-TL400SN  
Light Source: (1)SURFACE MOUNT LED  
14 WATTS  
Ballast/Driver: 120 VOLT ELECTRONIC DRIVER

**Summary**

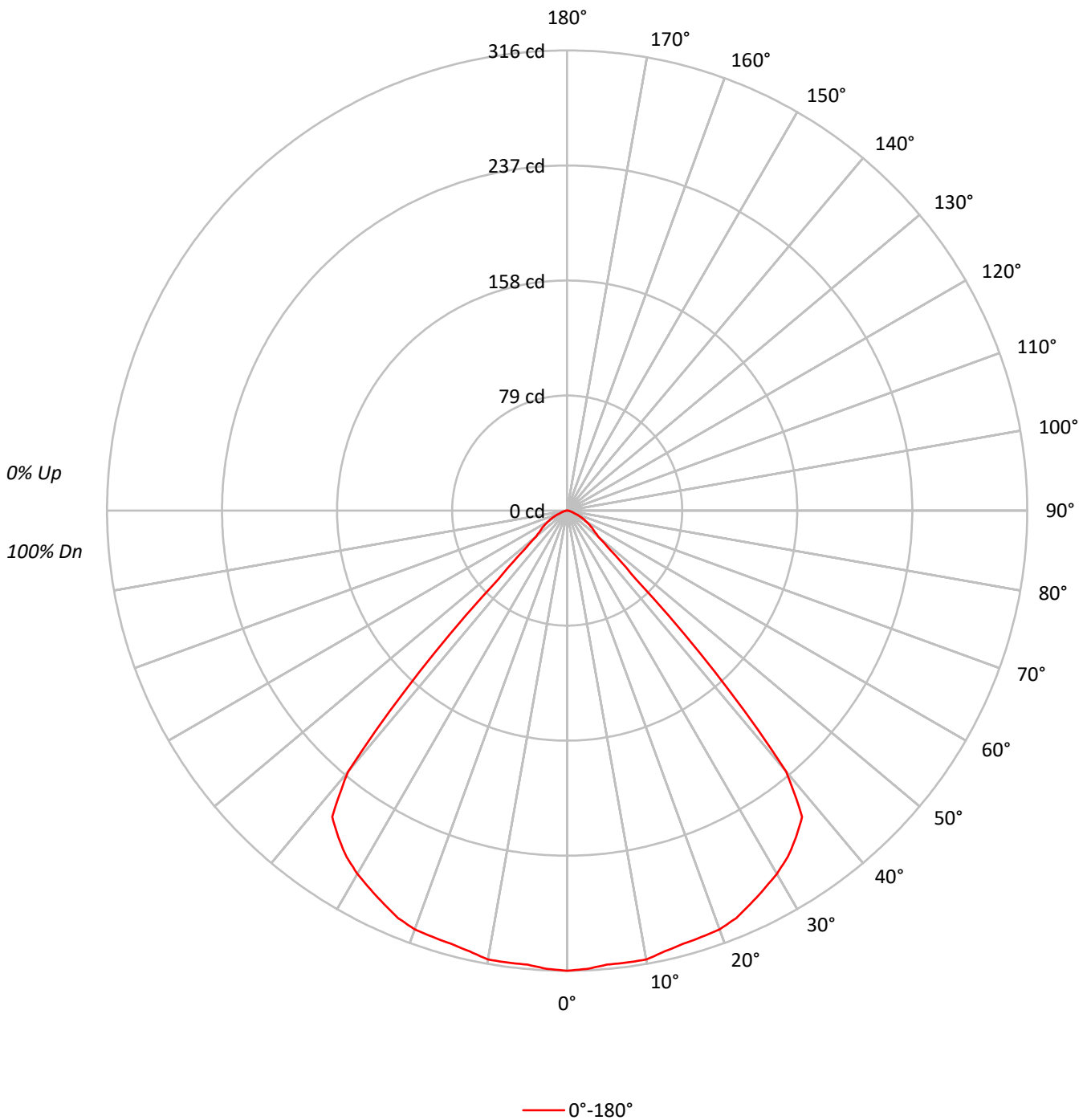
Lumens per Lamp: 530 (1 lamp)  
Luminaire Lumens: 529.9 lumens  
Efficiency: 100.0%  
Efficacy: 38.1 lumens/watt  
Spacing Criteria (0/90/45): 1.35 / 1.35 / 1.25  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 13.9  
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	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	112	109	106	104	110	107	104	102	103	101	99		99	97	96		96	94	93	91
2	106	100	95	91	103	98	94	90	95	91	88		92	89	86		89	86	84	82
3	99	91	85	81	97	90	84	80	87	83	79		85	81	77		82	79	76	74
4	93	84	77	72	91	82	76	72	80	75	71		78	74	70		76	72	69	67
5	87	77	70	65	85	76	69	65	74	68	64		72	67	63		71	66	63	61
6	81	71	64	59	80	70	63	59	68	62	58		67	62	58		65	61	57	56
7	76	65	58	53	75	65	58	53	63	57	53		62	57	53		61	56	52	51
8	72	61	54	49	70	60	53	49	59	53	48		58	52	48		57	52	48	46
9	68	56	49	45	66	56	49	45	55	49	44		54	48	44		53	48	44	43
10	64	52	46	41	63	52	45	41	51	45	41		50	45	41		49	44	41	39

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

	0°
0°	30613
5°	30438
10°	30790
15°	30890
20°	31546
25°	31853
30°	32216
35°	32404
40°	29592
45°	9179
50°	4220
55°	3547
60°	2906
65°	2292
70°	1416
75°	1123
80°	558
85°	1112



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	29.9	5.6	5.6
10°-20°	87.4	16.5	16.5
20°-30°	137.6	26.0	26.0
30°-40°	169.4	32.0	32.0
40°-50°	72.9	13.8	13.7
50°-60°	18.8	3.6	3.6
60°-70°	10.1	1.9	1.9
70°-80°	3.2	0.6	0.6
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°	254.9	48.1	48.1
0°-40°	424.2	80.1	80.0
0°-60°	515.9	97.4	97.3
0°-90°	529.9	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°	529.9	100.0	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	316	
5°	313	30
15°	308	87
25°	298	138
35°	274	169
45°	67	73
55°	21	19
65°	10	10
75°	3	3
85°	1	1
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	316
2.5°	315
5°	313
7.5°	313
10°	313
12.5°	310
15°	308
17.5°	307
20°	306
22.5°	303
25°	298
27.5°	293
30°	288
32.5°	282
35°	274
37.5°	265
40°	234
42.5°	150
45°	67
47.5°	40
50°	28
52.5°	24
55°	21
57.5°	18
60°	15
62.5°	13
65°	10
67.5°	8
70°	5
72.5°	4
75°	3
77.5°	2
80°	1
82.5°	1
85°	1
87.5°	0
90°	0

(END OF REPORT)