

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: P21178

Luminaire Tested: **EL405830-TL409WW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P21178
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: EL405830-TL409WW
Description: HALO 4 INCH RECESSED WALL WASH WITH WHITE ROUND TRIM, HAZE REFLECTOR, SPECULAR KICKER AND SOFT FOCUS 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
(1) 14 WATTS
Ballast/Driver: ELECTRONIC DRIVER

Summary

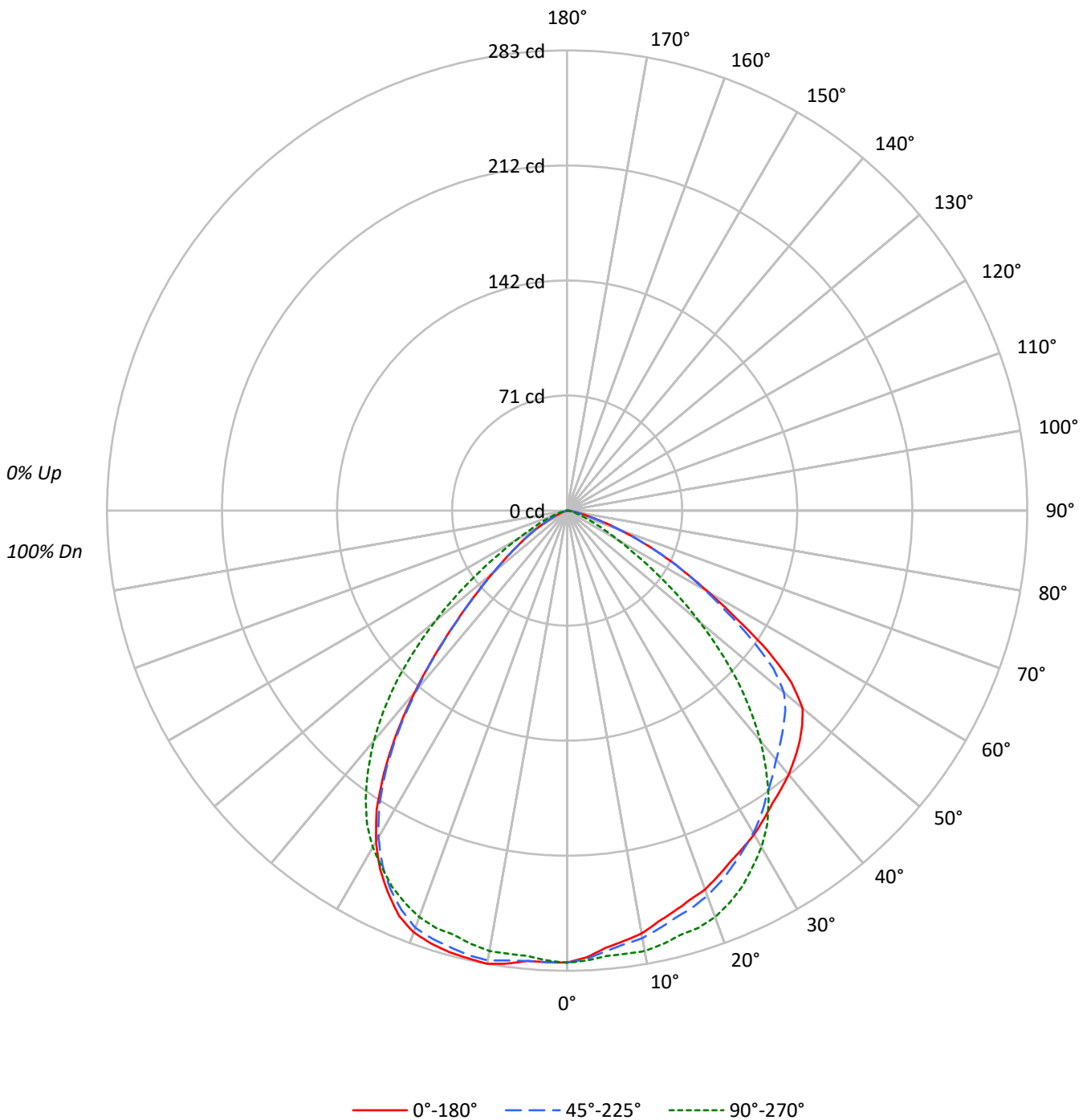
Lumens per Lamp: 575 (1 lamp)
Luminaire Lumens: 575.7 lumens
Efficiency: 100.1%
Efficacy: 42.0 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.26 / 1.25
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 13.7
Input Voltage (V): NR
Input Current (A_{in}): 0.12026
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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	107	107	107	102	102	102	100					100			
1	111	108	104	101	109	105	102	100	101	99	97	97	96	94	94	92	91					89				
2	103	97	91	86	101	95	90	85	91	87	83	88	85	82	85	82	80					78				
3	95	87	80	74	93	85	79	74	82	77	72	80	75	71	77	73	70					68				
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62					60				
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55					53				
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	59	53	49					47				
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	48	44					43				
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40					38				
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37					35				
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	37	33					32				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	34290	34290	34290
5°	33431	34050	34421
10°	33066	34443	35445
15°	32563	34478	35883
20°	32553	34916	36228
25°	32391	34705	35385
30°	32758	34040	33470
35°	33127	32525	29513
40°	34135	29788	23508
45°	35236	25817	16746
50°	36268	20341	11322
55°	32472	14193	7742
60°	24669	8881	4934
65°	18679	5545	2335
70°	12262	3246	1082
75°	6672	1906	477
80°	3552	1421	0
85°	2830	1415	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	26.2	4.6	4.6
10°-20°	76.1	13.2	13.2
20°-30°	115.1	20.0	20.0
30°-40°	129.2	22.4	22.5
40°-50°	111.9	19.4	19.5
50°-60°	75.2	13.1	13.1
60°-70°	33.0	5.7	5.7
70°-80°	7.9	1.4	1.4
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°	217.4	37.8	37.8
0°-40°	346.6	60.2	60.3
0°-60°	533.7	92.7	92.8
0°-90°	575.7	100.0	100.1
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°	575.7	100.0	100.1

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	278	278	278	278	278	
5°	270	272	275	278	278	26
15°	255	259	270	278	281	72
25°	238	241	255	257	260	110
35°	220	214	216	194	196	138
45°	202	188	148	95	96	156
55°	151	139	66	36	36	132
65°	64	64	19	9	8	64
75°	14	13	4	1	1	17
85°	2	2	1	0	0	2
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	278	278	278	278	278	278	278	278	278
2.5°	275	275	276	276	277	277	278	278	278
5°	270	270	272	273	275	276	278	278	278
7.5°	267	268	269	272	275	277	279	280	281
10°	264	265	267	271	275	278	281	282	283
12.5°	259	260	263	268	273	277	280	282	282
15°	255	256	259	265	270	275	278	280	281
17.5°	251	252	256	262	269	273	276	278	279
20°	248	249	252	259	266	270	273	275	276
22.5°	243	244	247	254	261	264	266	268	270
25°	238	238	241	248	255	257	257	259	260
27.5°	234	233	235	241	247	247	246	248	249
30°	230	228	229	235	239	235	232	234	235
32.5°	225	223	222	227	229	220	215	216	218
35°	220	217	214	218	216	202	194	195	196
37.5°	216	211	207	208	201	180	170	170	172
40°	212	206	200	198	185	157	144	145	146
42.5°	207	201	194	187	167	134	119	119	120
45°	202	196	188	175	148	111	95	95	96
47.5°	196	191	182	163	127	90	75	75	76
50°	189	184	174	150	106	72	59	59	59
52.5°	174	169	160	134	86	56	46	46	46
55°	151	147	139	113	66	43	36	35	36
57.5°	123	121	117	93	49	32	27	27	27
60°	100	99	98	77	36	23	20	19	20
62.5°	81	81	81	64	26	16	14	13	13
65°	64	64	64	50	19	10	9	8	8
67.5°	48	48	48	37	13	6	5	5	5
70°	34	34	33	26	9	4	3	3	3
72.5°	23	23	22	16	6	2	2	2	1
75°	14	14	13	10	4	1	1	1	1
77.5°	9	9	8	6	2	1	0	0	0
80°	5	5	5	3	2	1	0	0	0
82.5°	3	3	3	2	1	0	0	0	0
85°	2	2	2	1	1	0	0	0	0
87.5°	1	1	1	1	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0

(END OF REPORT)