

LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: HALO

Report Number: P599644

Luminaire Tested: **RL4069WZRGBWWH 3500K**

Issue Date: 5/31/2022

Tested By:

Approved By:



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**Test Information**

Test Method: LM-79-08  
 Report Number: P599644  
 Test Lab: ETA TESTING TECHNOLOGY CO., LTD.  
 Issue Date: 5/31/2022  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: HALO  
 Catalog Number: RL4069WZRGBWWH 3500K  
 Description: 4 INCH RL WIZ SELECTABLE CCT  
 Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
 Ballast/Driver: -

**Summary**

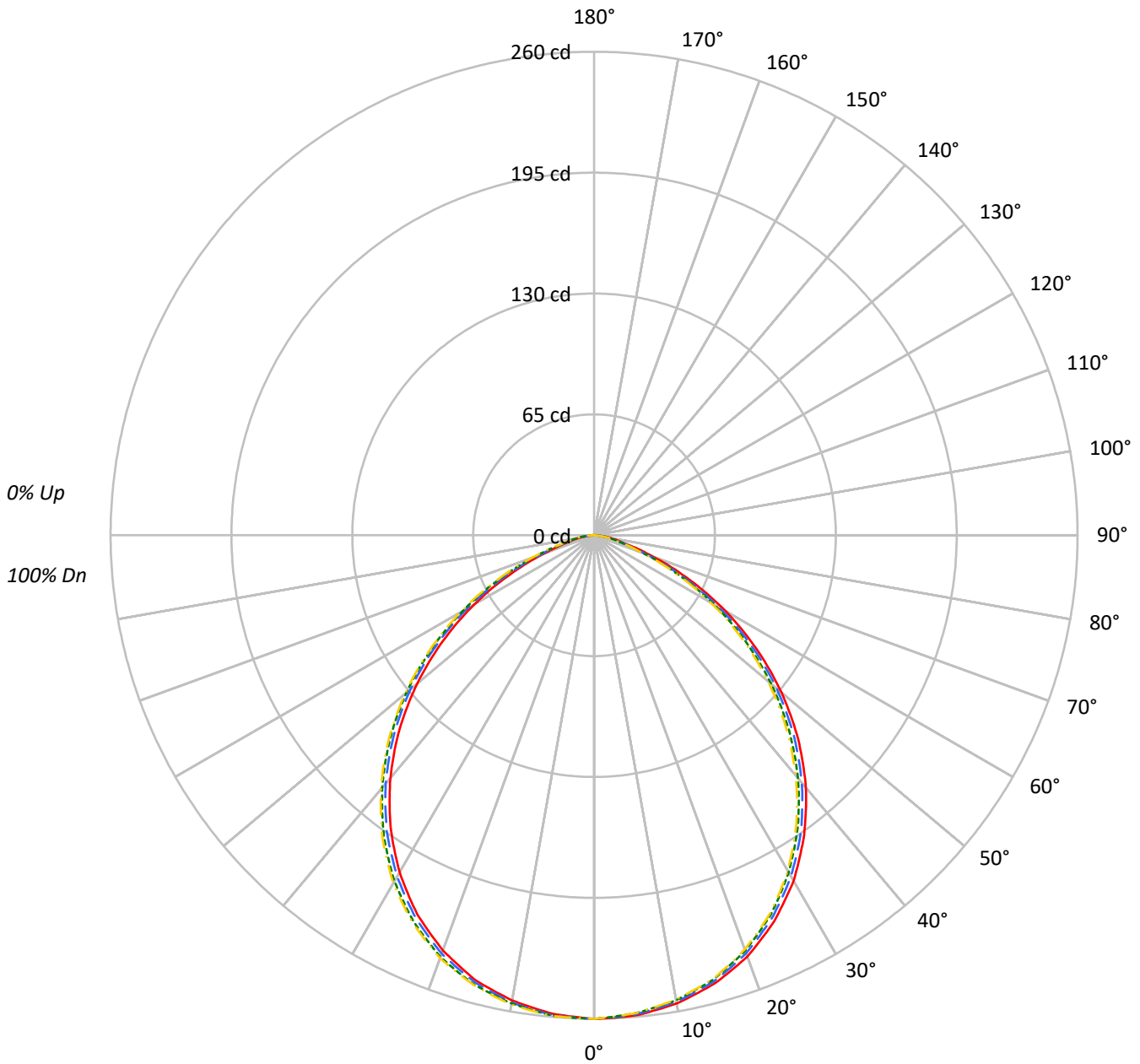
Lumens per Lamp: 630.83 (1 lamp)  
 Luminaire Lumens: 604.9 lumens  
 Efficiency: 95.9%  
 Efficacy: 84.0 lumens/watt  
 Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.3  
 Luminous Opening: Circular (Dia: 0.33' x H: 0')  
 CIE Type: Direct

Input Watts (W): 7.2  
 Input Voltage (V): NR  
 Input Current (Ain): 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

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	GONIO 1 IN0055	4/22/2021	10/22/2021
Power Meter	XITRON 2801 IN0197	12/1/2020	12/1/2021
AC Power Source	CHROMA 61505 IN0196	12/1/2020	12/1/2021
DC Power Supply	AGILENT E3634A IN0198	11/30/2020	11/30/2021
Room Thermometer	ONSET IN0143	12/1/2020	12/1/2021

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### Luminous Intensity Polar Plot



— 0°-180°    - - 45°-225°    ···· 90°-270°    - · - · 135°-315°

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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				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	0
RCR																					
0	114	114	114	114	111	111	111	111	107	107	107	102	102	102	98	98	98	98	98	98	96
1	106	102	98	95	103	100	96	94	96	93	91	92	90	88	89	87	85	85	85	85	83
2	97	90	84	80	95	88	83	79	85	81	77	82	78	75	79	76	73	73	73	73	72
3	89	80	73	68	87	79	72	67	76	70	66	73	69	65	71	67	64	64	64	64	62
4	82	72	64	58	80	70	63	58	68	62	57	66	61	56	64	59	55	55	55	55	53
5	76	65	57	51	74	63	56	50	61	55	50	60	54	49	58	53	49	49	49	49	47
6	70	58	50	45	69	58	50	44	56	49	44	54	48	44	53	47	43	43	43	43	41
7	65	53	45	40	64	52	45	39	51	44	39	50	44	39	48	43	39	39	39	39	37
8	61	49	41	36	60	48	41	35	47	40	35	46	40	35	45	39	35	35	35	35	33
9	57	45	37	32	56	44	37	32	43	37	32	42	36	32	41	36	32	32	32	32	30
10	54	41	34	29	52	41	34	29	40	34	29	39	33	29	38	33	29	29	29	29	27

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

	0°	90°	180°	270°
0°	32734	32734	32734	32734
5°	32745	32593	32631	32758
10°	32676	32446	32459	32676
15°	32533	32234	32247	32572
20°	32290	31834	31821	32330
25°	31813	31243	31230	31854
30°	31185	30415	30401	31214
35°	30251	29360	29329	30281
40°	29111	28027	27994	29111
45°	27622	26376	26359	27640
50°	25746	24336	24317	25785
55°	23411	21810	21788	23455
60°	20539	18651	18676	20564
65°	16825	14800	14800	16884
70°	12327	10119	10192	12437
75°	8169	6807	6856	8072
80°	6885	5580	5653	6958
85°	5343	3177	3177	5487

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	24.6	4.1	3.9
10°-20°	70.1	11.6	11.1
20°-30°	104.5	17.3	16.6
30°-40°	121.1	20.0	19.2
40°-50°	116.7	19.3	18.5
50°-60°	92.1	15.2	14.6
60°-70°	53.1	8.8	8.4
70°-80°	18.5	3.1	2.9
80°-90°	4.0	0.7	0.6
90°-100°	0.1	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°	199.1	32.9	31.6
0°-40°	320.3	53.0	50.8
0°-60°	529.1	87.5	83.9
0°-90°	604.7	100.0	95.9
90°-120°	0.2	0.0	0.0
90°-150°	0.2	0.0	0.0
90°-180°	0.0	0.0	0.0
0°-180°	604.9	100.0	95.9

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	260	260	260	260	260	
5°	259	258	258	259	259	25
15°	250	247	248	250	250	70
25°	229	225	225	229	229	105
35°	197	191	191	197	197	123
45°	155	148	148	155	155	119
55°	107	99	99	107	107	95
65°	56	50	50	57	56	56
75°	17	14	14	17	17	20
85°	4	2	2	4	4	4
90°	0	0	0	0	0	1
95°	0	0	0	0	0	0
105°	0	0	0	0	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	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°	202.5°	225°
0°	260.1	260.1	260.1	260.1	260.1	260.1	260.1	260.1	260.1	260.1	260.1
5°	259.2	259.1	258.6	258.5	258.0	257.9	258.0	258.0	258.3	258.3	259.0
10°	255.7	255.2	254.8	254.5	253.9	253.5	253.5	253.8	254.0	254.3	255.1
15°	249.7	249.5	248.5	248.0	247.4	246.8	247.0	246.6	247.5	247.7	248.7
20°	241.1	240.3	239.2	238.5	237.7	236.8	237.0	236.8	237.6	238.0	239.5
25°	229.1	228.3	226.8	226.3	225.0	224.0	224.2	224.0	224.9	225.3	227.0
30°	214.6	213.4	211.8	210.8	209.3	208.1	208.3	207.8	209.2	209.8	211.8
35°	196.9	195.9	194.0	192.8	191.1	189.5	189.6	189.3	190.9	191.9	194.3
40°	177.2	176.1	173.8	172.5	170.6	168.7	168.7	168.5	170.4	171.6	174.3
45°	155.2	154.2	151.7	150.2	148.2	146.1	145.9	145.9	148.1	149.4	152.4
50°	131.5	130.5	128.1	126.2	124.3	122.0	121.9	121.8	124.2	125.7	128.8
55°	106.7	105.7	103.0	101.3	99.4	97.2	97.4	97.2	99.3	100.9	103.9
60°	81.6	80.4	77.4	75.6	74.1	72.1	72.3	72.2	74.2	75.7	78.8
65°	56.5	55.1	52.1	50.6	49.7	48.0	48.3	48.1	49.7	50.9	53.8
70°	33.5	32.0	29.5	28.1	27.5	26.6	26.8	26.7	27.7	28.7	30.8
75°	16.8	15.9	15.0	14.3	14.0	13.9	13.6	14.0	14.1	14.9	15.3
80°	9.5	9.1	8.3	7.9	7.7	7.3	7.4	7.3	7.8	8.1	8.8
85°	3.7	3.4	2.7	2.3	2.2	1.8	1.8	1.8	2.2	2.6	3.2
90°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
95°	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1
100°	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1
105°	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
110°	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	260.1	260.1	260.1	260.1	260.1	260.1
5°	259.1	259.3	259.4	259.4	259.3	259.2
10°	255.6	255.7	256.1	256.3	256.1	255.7
15°	249.4	250.0	250.5	250.4	250.2	249.7
20°	240.3	241.4	242.0	242.1	241.8	241.1
25°	228.1	229.4	230.5	230.4	230.5	229.1
30°	213.2	214.8	216.0	215.9	215.8	214.6
35°	195.6	197.1	198.6	198.5	198.4	196.9
40°	175.8	177.2	178.7	178.3	178.6	177.2
45°	153.9	155.3	156.7	156.5	156.7	155.2
50°	130.4	131.7	133.1	132.7	133.1	131.5
55°	105.6	106.9	108.6	108.2	108.4	106.7
60°	80.5	81.7	83.5	83.1	83.2	81.6
65°	55.4	56.7	58.7	58.5	58.5	56.5
70°	32.6	33.8	35.4	35.5	35.2	33.5
75°	16.7	16.6	17.5	17.5	17.5	16.8
80°	9.3	9.6	10.1	10.2	10.1	9.5
85°	3.6	3.8	4.3	4.2	4.2	3.7
90°	0.1	0.1	0.1	0.1	0.1	0.1
95°	0.1	0.1	0.1	0.1	0.1	0.1
100°	0.1	0.1	0.1	0.1	0.1	0.0
105°	0.1	0.1	0.1	0.0	0.0	0.0
110°	0.1	0.1	0.1	0.0	0.0	0.0
115°	0.1	0.1	0.0	0.0	0.0	0.0
120°	0.1	0.1	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)