

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: P599643

Luminaire Tested: **RL4069WZRGBWWH 3000K**

Issue Date: 5/31/2022

Tested By:

Approved By:



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**Test Information**

Test Method: LM-79-08  
 Report Number: P599643  
 Test Lab: ETA TESTING TECHNOLOGY CO., LTD.  
 Issue Date: 5/31/2022  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: HALO  
 Catalog Number: RL4069WZRGBWWH 3000K  
 Description: 4 INCH RL WIZ SELECTABLE CCT  
 Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
 Ballast/Driver: -

**Summary**

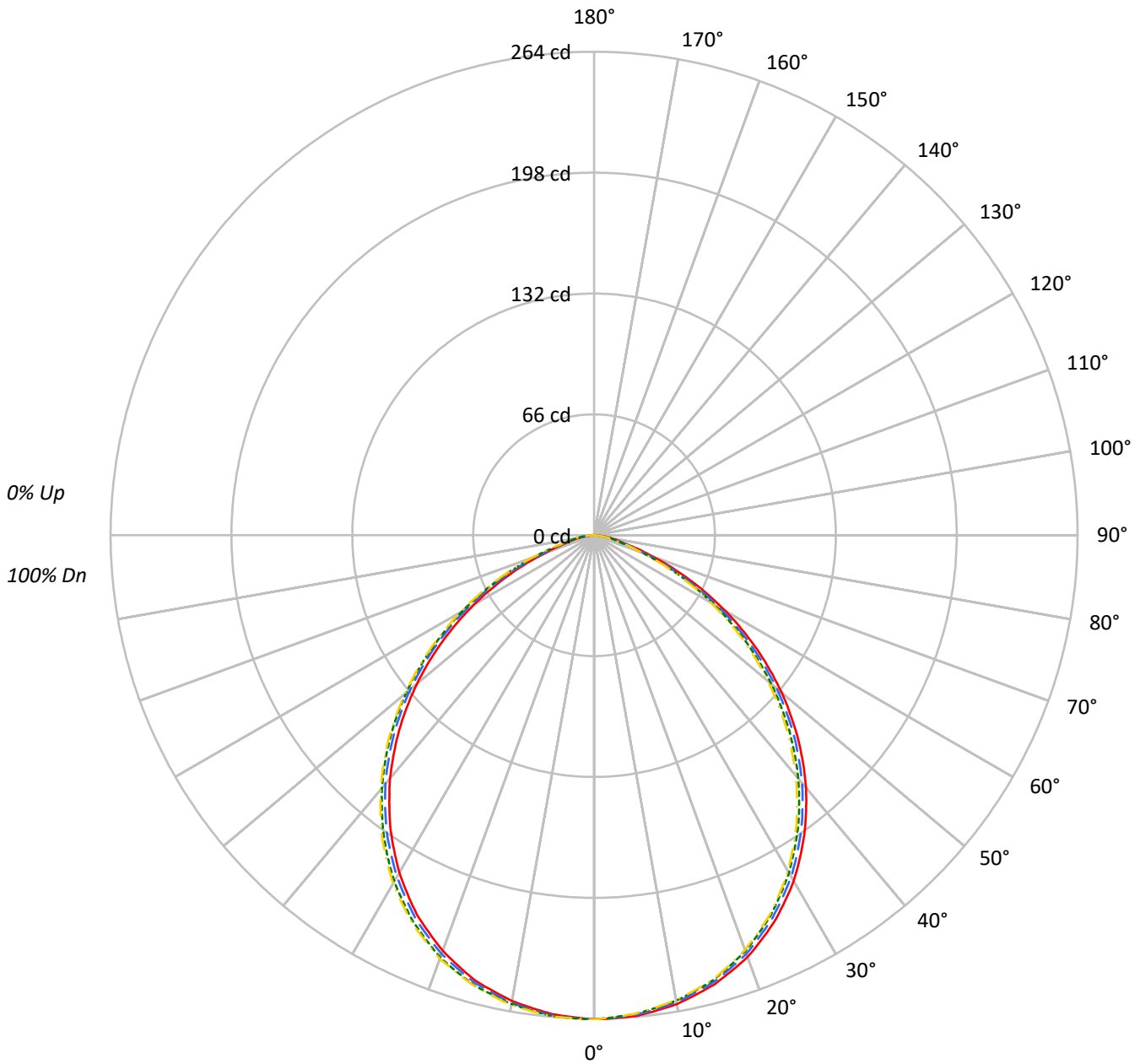
Lumens per Lamp: 630.83 (1 lamp)  
 Luminaire Lumens: 614.9 lumens  
 Efficiency: 97.5%  
 Efficacy: 85.4 lumens/watt  
 Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.3  
 Luminous Opening: Circular (Dia: 0.33' x H: 0')  
 CIE Type: Direct

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											
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	50	30	10	0					
RCR																																
0	116	116	116	116	113	113	113	113	108	108	108	104	104	104	99	99	99	99	99	99	99	99	99	99	99	99	99	97				
1	108	104	100	97	105	101	98	95	97	95	92	93	91	89	90	88	87	87	87	87	87	87	87	87	87	87	87	85				
2	99	92	86	81	96	90	85	80	87	82	78	83	80	76	81	77	75	75	75	75	75	75	75	75	75	75	75	73				
3	91	82	74	69	89	80	73	68	77	72	67	75	70	66	72	68	65	65	65	65	65	65	65	65	65	65	65	63				
4	84	73	65	59	82	72	64	59	69	63	58	67	62	57	65	60	56	56	56	56	56	56	56	56	56	56	56	54				
5	77	66	57	51	75	65	57	51	63	56	51	61	55	50	59	54	50	50	50	50	50	50	50	50	50	50	50	48				
6	72	59	51	45	70	58	51	45	57	50	45	55	49	44	54	48	44	44	44	44	44	44	44	44	44	44	44	42				
7	67	54	46	40	65	53	46	40	52	45	40	50	44	40	49	44	39	39	39	39	39	39	39	39	39	39	39	37				
8	62	49	42	36	61	49	41	36	48	41	36	46	40	36	45	40	35	35	35	35	35	35	35	35	35	35	35	34				
9	58	46	38	33	57	45	38	33	44	37	32	43	37	32	42	36	32	32	32	32	32	32	32	32	32	32	32	30				
10	54	42	35	30	53	42	34	30	41	34	30	40	34	29	39	33	29	29	29	29	29	29	29	29	29	29	29	28				

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

	0°	90°	180°	270°
0°	33275	33275	33275	33275
5°	33288	33136	33162	33301
10°	33226	32983	32996	33213
15°	33080	32768	32781	33120
20°	32825	32357	32343	32866
25°	32340	31757	31757	32382
30°	31694	30924	30909	31723
35°	30742	29851	29820	30773
40°	29588	28503	28471	29604
45°	28067	26821	26786	28103
50°	26177	24728	24728	26216
55°	23806	22183	22161	23828
60°	20866	18953	19003	20916
65°	17093	15038	15068	17182
70°	12547	10303	10376	12658
75°	8315	6953	6953	8218
80°	7030	5653	5725	7102
85°	5487	3177	3321	5631

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	25.0	4.1	4.0
10°-20°	71.2	11.6	11.3
20°-30°	106.2	17.3	16.8
30°-40°	123.2	20.0	19.5
40°-50°	118.7	19.3	18.8
50°-60°	93.6	15.2	14.8
60°-70°	54.0	8.8	8.6
70°-80°	18.8	3.1	3.0
80°-90°	4.1	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°	202.4	32.9	32.1
0°-40°	325.6	52.9	51.6
0°-60°	537.9	87.5	85.3
0°-90°	614.7	100.0	97.5
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°	614.9	100.0	97.5

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	264	264	264	264	264	
5°	264	262	262	264	264	25
15°	254	252	252	254	254	72
25°	233	229	229	233	233	107
35°	200	194	194	200	200	125
45°	158	151	150	158	158	121
55°	108	101	101	109	108	97
65°	57	50	51	58	57	57
75°	17	14	14	17	17	21
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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 CATALOG NUMBER: RL4069WZRGBWWH 3000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4
5°	263.5	263.4	262.9	262.8	262.3	262.2	262.2	262.3	262.5	262.6	263.3
10°	260.0	259.5	259.0	258.7	258.1	257.6	257.7	258.0	258.2	258.6	259.3
15°	253.9	253.7	252.6	252.1	251.5	250.9	251.1	250.6	251.6	251.8	252.8
20°	245.1	244.3	243.2	242.5	241.6	240.7	240.9	240.7	241.5	242.0	243.4
25°	232.9	232.1	230.5	230.0	228.7	227.7	227.9	227.7	228.7	229.0	230.8
30°	218.1	216.9	215.3	214.3	212.8	211.5	211.7	211.2	212.7	213.2	215.3
35°	200.1	199.2	197.2	195.9	194.3	192.7	192.7	192.5	194.1	195.1	197.5
40°	180.1	179.1	176.7	175.3	173.5	171.5	171.4	171.3	173.3	174.5	177.2
45°	157.7	156.7	154.2	152.7	150.7	148.5	148.3	148.3	150.5	151.9	155.0
50°	133.7	132.7	130.2	128.3	126.3	124.0	123.9	123.9	126.3	127.8	130.9
55°	108.5	107.5	104.7	103.0	101.1	98.8	99.0	98.8	101.0	102.6	105.7
60°	82.9	81.7	78.7	76.9	75.3	73.3	73.5	73.4	75.5	76.9	80.1
65°	57.4	56.0	53.0	51.4	50.5	48.8	49.1	48.9	50.6	51.7	54.7
70°	34.1	32.5	30.0	28.6	28.0	27.1	27.3	27.1	28.2	29.2	31.4
75°	17.1	16.2	15.3	14.5	14.3	14.1	13.9	14.2	14.3	15.2	15.5
80°	9.7	9.2	8.5	8.1	7.8	7.4	7.5	7.4	7.9	8.3	9.0
85°	3.8	3.5	2.7	2.4	2.2	1.8	1.9	1.9	2.3	2.6	3.3
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°	264.4	264.4	264.4	264.4	264.4	264.4
5°	263.4	263.6	263.6	263.7	263.6	263.5
10°	259.8	259.9	260.4	260.5	260.4	260.0
15°	253.5	254.2	254.6	254.5	254.4	253.9
20°	244.3	245.4	246.0	246.1	245.8	245.1
25°	231.8	233.2	234.3	234.2	234.3	232.9
30°	216.7	218.3	219.6	219.5	219.4	218.1
35°	198.8	200.3	201.9	201.8	201.7	200.1
40°	178.7	180.2	181.6	181.3	181.6	180.1
45°	156.4	157.9	159.3	159.1	159.2	157.7
50°	132.5	133.9	135.3	134.9	135.3	133.7
55°	107.3	108.6	110.4	110.0	110.2	108.5
60°	81.8	83.1	84.9	84.5	84.6	82.9
65°	56.4	57.7	59.6	59.4	59.4	57.4
70°	33.1	34.4	36.0	36.1	35.8	34.1
75°	16.9	16.9	17.8	17.8	17.8	17.1
80°	9.5	9.8	10.3	10.3	10.3	9.7
85°	3.7	3.9	4.3	4.3	4.2	3.8
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	0.1	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	0.1	0.0	0.0	0.0	0.0
145°	0.0	0.1	0.0	0.0	0.0	0.0
150°	0.0	0.1	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)