

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: P599639

Luminaire Tested: **RL56069WZRGBWWH 4000K**

Issue Date: 5/31/2022

Tested By:

Approved By:



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**Test Information**

Test Method: LM-79-08  
 Report Number: P599639  
 Test Lab: ETA TESTING TECHNOLOGY CO., LTD.  
 Issue Date: 5/31/2022  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: HALO  
 Catalog Number: RL56069WZRGBWWH 4000K  
 Description: 6 INCH RL WIZ SELECTABLE CCT  
 Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
 Ballast/Driver: -

**Summary**

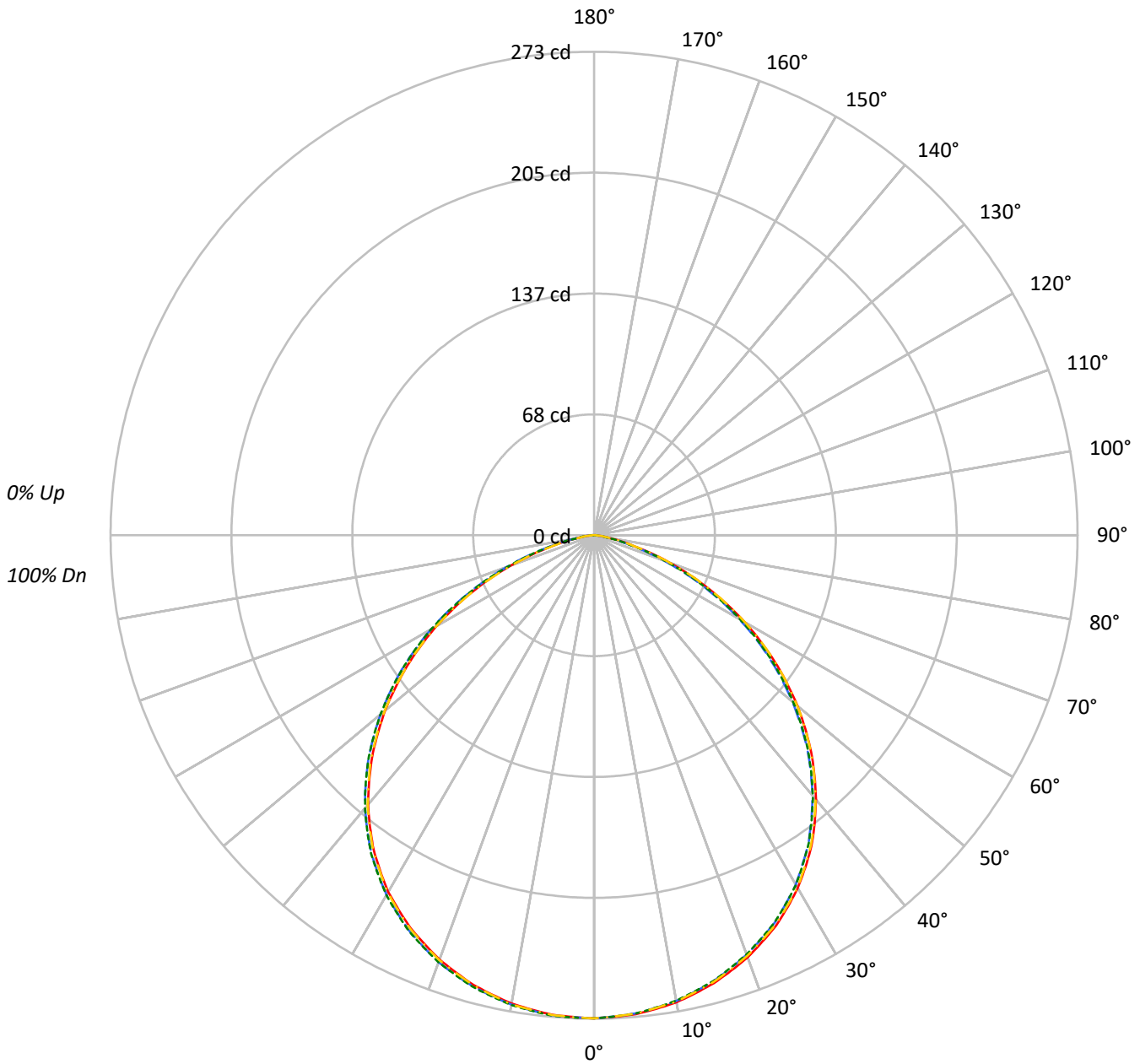
Lumens per Lamp: 707.58 (1 lamp)  
 Luminaire Lumens: 699.9 lumens  
 Efficiency: 98.9%  
 Efficacy: 87.5 lumens/watt  
 Spacing Criteria (0/90/45): 1.26 / 1.26 / 1.35  
 Luminous Opening: Circular (Dia: 0.5' x H: 0')  
 CIE Type: Direct

Input Watts (W): 8  
 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	118	118	118	118	115	115	115	115	110	110	110	105	105	105	101	101	101	99				99
1	109	105	101	97	106	102	99	96	98	95	93	94	92	90	91	89	87	85				85
2	100	92	86	81	97	90	85	80	87	82	78	84	80	76	81	77	74	72				72
3	91	81	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62				62
4	84	72	64	58	82	71	63	58	69	62	57	66	61	56	64	59	55	53				53
5	77	65	56	50	75	64	56	50	62	55	49	60	54	49	58	53	48	46				46
6	71	59	50	44	69	58	50	44	56	49	43	54	48	43	53	47	43	41				41
7	66	53	45	39	64	52	44	39	51	44	38	49	43	38	48	42	38	36				36
8	62	49	40	35	60	48	40	35	47	40	34	45	39	34	44	38	34	32				32
9	58	45	37	31	56	44	36	31	43	36	31	42	36	31	41	35	31	29				29
10	54	41	34	28	53	41	33	28	40	33	28	39	33	28	38	32	28	26				26

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

	0°	90°	180°	270°
0°	14955	14955	14955	14955
5°	14941	14919	14957	14985
10°	14907	14857	14946	14991
15°	14858	14784	14921	14989
20°	14795	14690	14876	14970
25°	14711	14590	14813	14934
30°	14566	14433	14717	14850
35°	14328	14154	14522	14690
40°	13955	13754	14205	14398
45°	13443	13226	13746	13994
50°	12784	12537	13134	13432
55°	11909	11641	12329	12654
60°	10778	10482	11271	11633
65°	9262	8937	9858	10209
70°	7261	6956	7950	8319
75°	4766	4406	5486	5846
80°	2526	2305	3031	3252
85°	1572	1447	2264	2453

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	25.8	3.7	3.6
10°-20°	74.0	10.6	10.5
20°-30°	112.4	16.1	15.9
30°-40°	134.5	19.2	19.0
40°-50°	135.1	19.3	19.1
50°-60°	113.3	16.2	16.0
60°-70°	73.1	10.4	10.3
70°-80°	27.6	3.9	3.9
80°-90°	4.1	0.6	0.6
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°	212.2	30.3	30.0
0°-40°	346.8	49.5	49.0
0°-60°	595.1	85.0	84.1
0°-90°	699.8	100.0	98.9
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°	699.9	100.0	98.9

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	273	273	273	273	273	
5°	272	271	272	272	272	26
15°	262	260	263	264	262	74
25°	243	241	245	247	243	112
35°	214	212	217	220	214	134
45°	173	171	177	180	173	134
55°	125	122	129	132	125	111
65°	71	69	76	79	71	71
75°	22	21	26	28	22	26
85°	2	2	4	4	2	3
90°	0	0	0	0	0	0
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

TEST NUMBER: P599639  
 CATALOG NUMBER: RL56069WZRGBWWH 4000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	272.8	272.8	272.8	272.8	272.8	272.8	272.8	272.8	272.8	272.8	272.8
5°	271.5	271.2	271.0	271.1	271.1	270.8	271.1	271.5	271.8	272.0	272.1
10°	267.8	267.4	267.1	267.0	266.9	266.9	267.3	267.9	268.5	268.9	269.1
15°	261.8	261.2	260.7	260.4	260.5	260.6	261.1	261.8	262.9	263.4	263.9
20°	253.6	253.1	252.0	252.0	251.8	252.1	252.8	253.7	255.0	255.6	256.6
25°	243.2	242.3	241.4	241.3	241.2	241.5	242.5	243.2	244.9	245.5	246.6
30°	230.1	229.1	227.7	227.9	228.0	228.2	229.6	230.7	232.5	233.2	234.4
35°	214.1	212.8	211.3	211.4	211.5	211.9	213.6	214.8	217.0	217.8	219.3
40°	195.0	193.8	191.8	192.0	192.2	192.7	194.6	196.0	198.5	199.4	201.2
45°	173.4	172.0	170.2	170.2	170.6	171.1	173.2	174.5	177.3	178.4	180.5
50°	149.9	148.3	146.2	146.3	147.0	147.5	149.8	151.2	154.0	155.2	157.5
55°	124.6	123.1	120.8	121.1	121.8	122.5	124.7	126.2	129.0	130.4	132.7
60°	98.3	96.8	94.6	94.7	95.6	96.1	98.4	99.8	102.8	104.1	106.4
65°	71.4	70.0	67.8	67.9	68.9	69.5	71.7	73.1	76.0	77.2	79.3
70°	45.3	44.2	42.0	42.3	43.4	43.5	45.6	46.8	49.6	50.6	52.5
75°	22.5	21.5	20.1	20.1	20.8	21.2	22.7	23.8	25.9	26.9	28.3
80°	8.0	7.6	7.1	7.1	7.3	7.4	8.1	8.6	9.6	10.1	10.9
85°	2.5	2.4	2.1	2.1	2.3	2.4	2.8	3.0	3.6	3.8	4.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	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°	272.8	272.8	272.8	272.8	272.8	272.8
5°	272.2	272.3	272.1	271.9	271.8	271.5
10°	269.3	269.3	269.2	268.9	268.3	267.8
15°	264.1	264.1	264.0	263.1	262.7	261.8
20°	256.5	256.6	256.4	255.3	254.8	253.6
25°	246.6	246.9	246.4	245.4	244.5	243.2
30°	234.5	234.6	234.3	232.9	231.9	230.1
35°	219.4	219.5	219.1	217.3	216.3	214.1
40°	201.5	201.2	200.9	198.9	197.5	195.0
45°	180.7	180.5	180.1	177.9	176.2	173.4
50°	157.7	157.5	156.8	154.4	152.9	149.9
55°	132.8	132.4	131.9	129.2	127.7	124.6
60°	106.7	106.1	105.5	102.9	101.4	98.3
65°	79.5	78.7	78.3	75.8	74.3	71.4
70°	52.8	51.9	51.5	49.0	48.0	45.3
75°	28.4	27.6	27.2	25.5	24.5	22.5
80°	10.9	10.3	10.2	9.4	8.9	8.0
85°	4.2	3.9	3.8	3.4	3.1	2.5
90°	0.1	0.1	0.1	0.1	0.0	0.0
95°	0.1	0.1	0.1	0.1	0.0	0.0
100°	0.1	0.1	0.1	0.0	0.0	0.0
105°	0.1	0.1	0.1	0.0	0.0	0.0
110°	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
120°	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
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)