

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO

Report Number: P645599

Luminaire Tested: HLS4079301EWH

Issue Date: 3/6/2023

Test Information

Test Method: LM-79-2019
Report Number: P645599
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (ETA20070011P-001 R1)
Test Lab: ETA Testing Technology Co., Ltd.
Issue Date: 3/6/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: HLS4079301EWH
Description: 4IN 750LM WET LOCATION
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

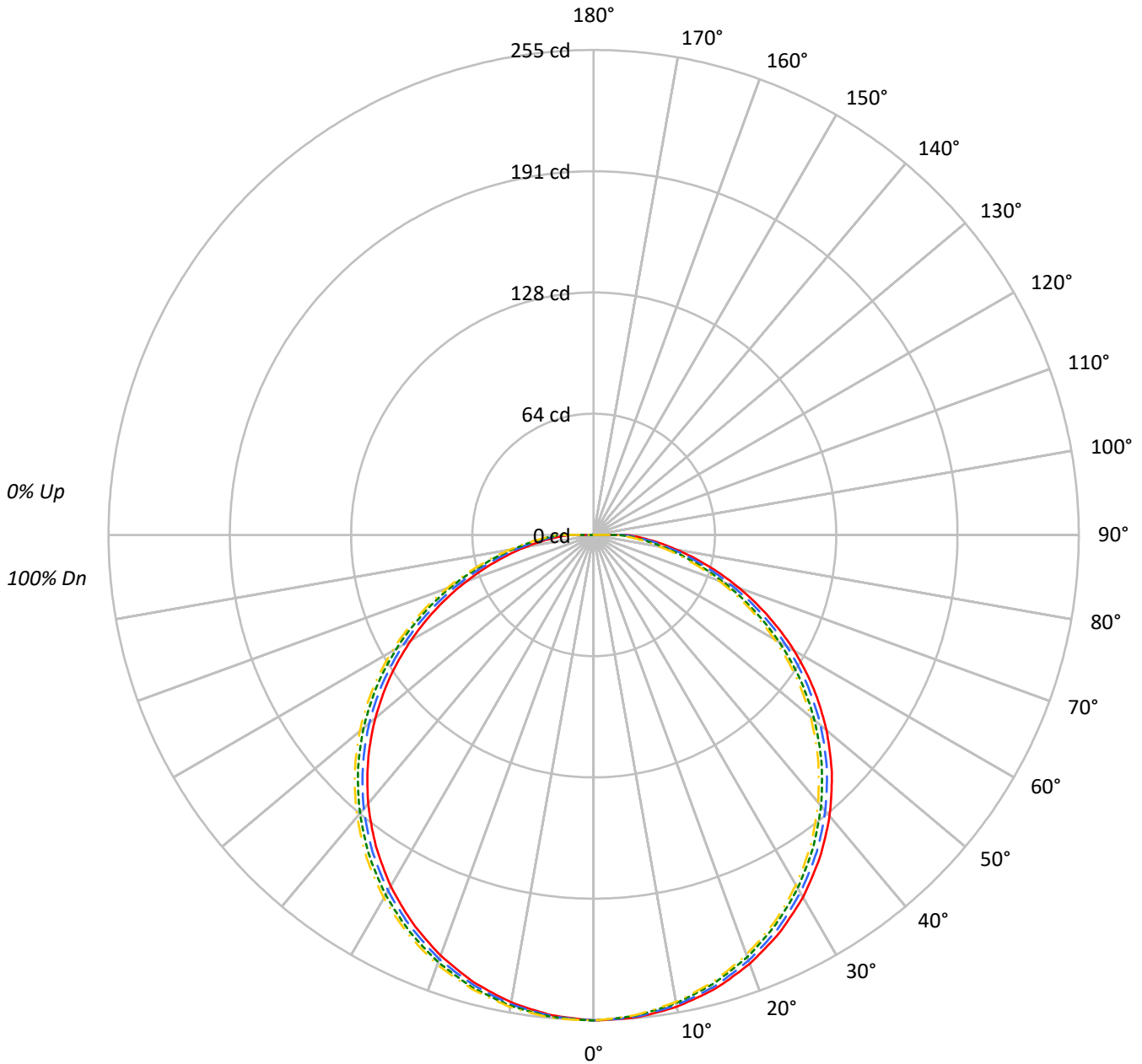
Lumens per Lamp: 794.86 (1 lamp)
Luminaire Lumens: 765.0 lumens
Efficiency: 96.2%
Efficacy: 62.7 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.26 / 1.38
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 12.2
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: 24 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	0	
RCR																						
0	115	115	115	115	112	112	112	112	107	107	107	102	102	102	98	98	98	96				
1	104	99	94	90	101	97	92	89	92	89	86	89	86	83	85	83	81	79				
2	94	86	79	73	91	84	77	72	80	75	70	77	73	69	74	70	67	65				
3	86	75	67	60	83	73	66	60	70	64	59	68	62	57	65	61	56	54				
4	78	66	57	51	76	65	57	50	62	55	50	60	54	49	58	53	48	46				
5	72	59	50	44	70	58	50	43	56	49	43	54	47	42	52	46	42	40				
6	66	53	44	38	64	52	44	38	50	43	37	49	42	37	47	41	37	35				
7	61	48	40	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31				
8	57	44	36	30	56	43	35	30	42	35	30	41	34	29	40	34	29	27				
9	53	40	32	27	52	40	32	27	39	32	27	38	31	26	37	31	26	24				
10	50	37	29	24	49	37	29	24	36	29	24	35	28	24	34	28	24	22				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	32129	32129	32129	32129
5°	32176	32050	32025	32138
10°	32191	31948	31897	32127
15°	32181	31804	31725	32090
20°	32129	31633	31513	32008
25°	32063	31410	31271	31896
30°	31970	31171	30997	31767
35°	31833	30865	30665	31603
40°	31691	30541	30294	31395
45°	31502	30150	29847	31182
50°	31267	29662	29329	30895
55°	30981	29072	28699	30564
60°	30632	28341	27888	30128
65°	30195	27486	27009	29630
70°	29842	26640	26088	29216
75°	30001	26111	25382	29223
80°	31816	26960	26018	30946
85°	41875	34222	32345	40720

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 315°
 Vertical Angle: 85°
 Luminance: 42886 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	24.2	3.2	3.0
10°-20°	69.2	9.0	8.7
20°-30°	105.1	13.7	13.2
30°-40°	127.3	16.6	16.0
40°-50°	132.9	17.4	16.7
50°-60°	121.5	15.9	15.3
60°-70°	95.1	12.4	12.0
70°-80°	60.7	7.9	7.6
80°-90°	29.1	3.8	3.7
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°	198.5	25.9	25.0
0°-40°	325.7	42.6	41.0
0°-60°	580.2	75.8	73.0
0°-90°	765.0	100.0	96.2
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°	765.0	100.0	96.2

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	255	255	255	255	255	
5°	255	254	254	254	255	24
15°	247	244	244	246	247	70
25°	231	226	225	230	231	106
35°	207	201	200	206	207	130
45°	177	169	168	175	177	137
55°	141	132	131	139	141	126
65°	101	92	91	100	101	100
75°	62	54	52	60	62	66
85°	29	24	22	28	29	33
90°	17	13	12	17	17	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3
5°	254.7	254.5	254.3	253.9	253.7	253.6	253.4	253.4	253.5	253.7	254.0
10°	251.9	251.5	251.0	250.4	250.0	249.7	249.3	249.4	249.6	250.0	250.6
15°	247.0	246.4	245.7	244.7	244.1	243.5	243.1	243.1	243.5	244.0	244.9
20°	239.9	239.1	238.1	236.9	236.2	235.3	234.8	234.9	235.3	236.2	237.3
25°	230.9	229.9	228.7	227.2	226.2	225.2	224.7	224.7	225.2	226.3	227.5
30°	220.0	218.8	217.2	215.6	214.5	213.3	212.6	212.6	213.3	214.5	216.1
35°	207.2	205.9	204.1	202.3	200.9	199.6	198.9	198.9	199.6	201.0	202.8
40°	192.9	191.3	189.4	187.3	185.9	184.4	183.5	183.6	184.4	186.0	188.0
45°	177.0	175.2	173.3	170.9	169.4	167.8	166.8	166.9	167.7	169.5	171.6
50°	159.7	157.9	155.7	153.1	151.5	149.8	148.8	148.9	149.8	151.7	154.0
55°	141.2	139.3	136.9	134.3	132.5	130.7	129.8	129.8	130.8	132.8	135.1
60°	121.7	119.6	117.2	114.4	112.6	110.7	109.7	109.8	110.8	113.0	115.4
65°	101.4	99.4	96.9	94.2	92.3	90.4	89.5	89.6	90.7	92.8	95.3
70°	81.1	79.2	76.7	74.2	72.4	70.6	69.7	69.8	70.9	73.0	75.4
75°	61.7	59.9	57.7	55.3	53.7	52.0	51.1	51.2	52.2	54.1	56.5
80°	43.9	42.4	40.7	38.7	37.2	35.7	34.9	34.9	35.9	37.5	39.6
85°	29.0	28.0	26.6	24.9	23.7	22.5	21.8	21.7	22.4	23.8	25.6
90°	17.4	16.5	15.5	14.3	13.3	12.3	11.7	11.6	12.1	13.3	14.7



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	255.3	255.3	255.3	255.3	255.3	255.3
5°	254.3	254.4	254.7	254.9	254.9	254.7
10°	251.1	251.4	251.9	252.1	252.1	251.9
15°	245.8	246.3	246.9	247.2	247.3	247.0
20°	238.4	239.0	239.9	240.4	240.4	239.9
25°	229.1	229.7	230.8	231.3	231.4	230.9
30°	217.7	218.6	219.9	220.5	220.6	220.0
35°	204.6	205.7	207.2	207.8	208.0	207.2
40°	190.1	191.1	192.7	193.4	193.7	192.9
45°	173.9	175.2	176.8	177.7	177.9	177.0
50°	156.4	157.8	159.6	160.5	160.6	159.7
55°	137.8	139.3	141.1	142.0	142.1	141.2
60°	118.0	119.7	121.6	122.5	122.6	121.7
65°	98.0	99.5	101.4	102.3	102.4	101.4
70°	77.9	79.4	81.1	82.1	82.0	81.1
75°	58.7	60.1	61.8	62.4	62.4	61.7
80°	41.6	42.7	44.1	44.7	44.6	43.9
85°	27.3	28.2	29.3	29.7	29.6	29.0
90°	16.0	16.7	17.4	17.8	17.7	17.4

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



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

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