

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: P645601

Luminaire Tested: HLS4079501EWH

Issue Date: 3/6/2023

Test Information

Test Method: LM-79-2019
Report Number: P645601
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: HLS4079501EWH
Description: 4IN 750LM WET LOCATION
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: -

Summary

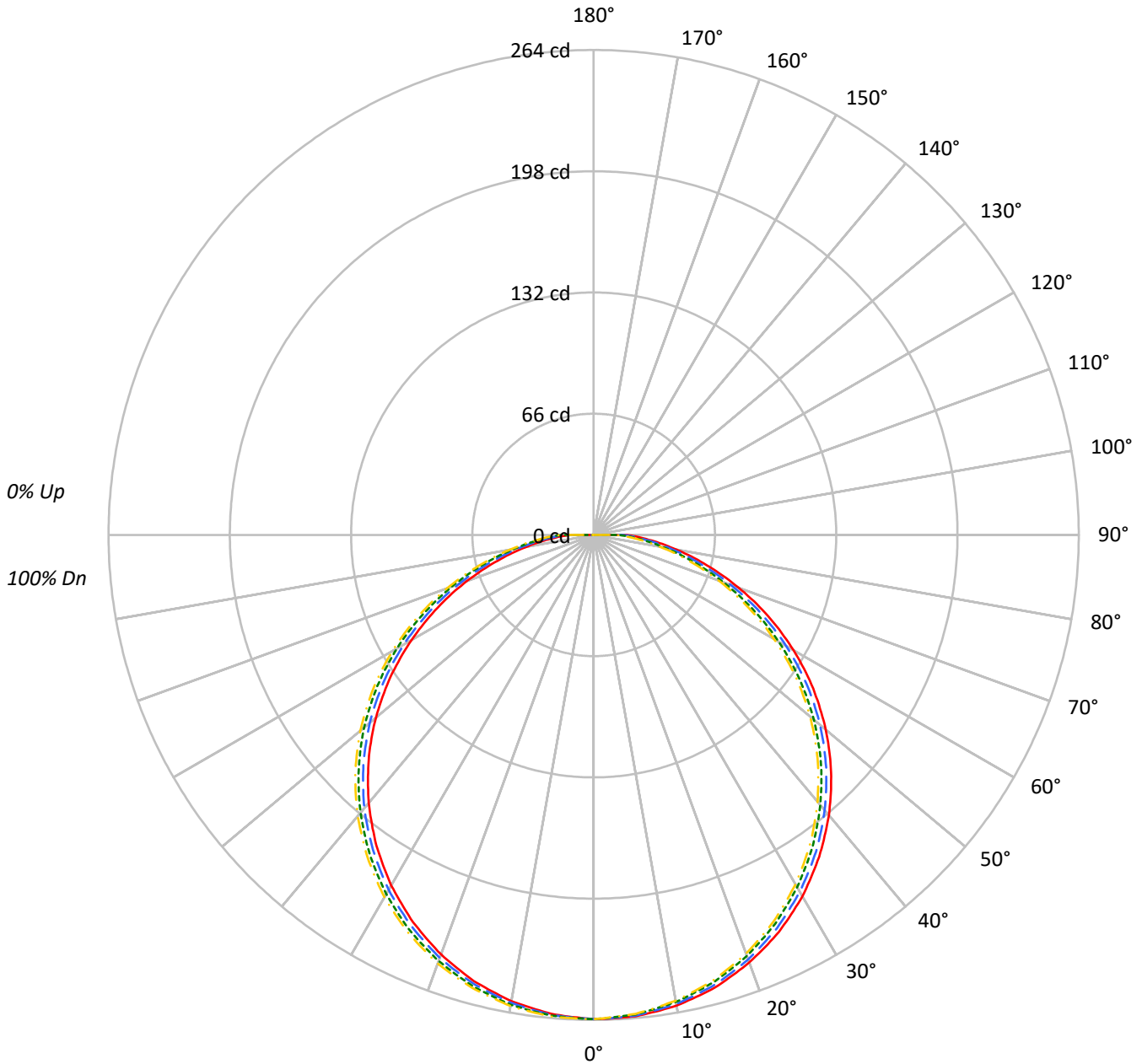
Lumens per Lamp: 794.86 (1 lamp)
Luminaire Lumens: 790.0 lumens
Efficiency: 99.4%
Efficacy: 63.7 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.26 / 1.38
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 12.4
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	118	118	118	118	116	116	116	116	110	110	110	106	106	106	101	101	101					99				
1	107	102	97	93	104	100	95	92	95	92	89	91	89	86	88	86	83					81				
2	97	88	81	75	94	86	80	74	83	77	73	80	75	71	77	73	69					67				
3	88	77	69	62	86	76	68	62	73	66	60	70	64	59	67	63	58					56				
4	81	68	59	52	78	67	59	52	65	57	51	62	56	51	60	54	50					48				
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43					41				
6	68	55	46	39	67	54	45	39	52	44	39	50	44	38	49	43	38					36				
7	63	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34					32				
8	59	45	37	31	57	45	36	31	43	36	30	42	35	30	41	35	30					28				
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27					25				
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	25					23				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	33174	33174	33174	33174
5°	33225	33099	33073	33187
10°	33251	32983	32932	33187
15°	33237	32846	32768	33133
20°	33174	32665	32544	33053
25°	33118	32438	32299	32951
30°	33016	32188	32014	32798
35°	32862	31879	31679	32632
40°	32726	31526	31280	32430
45°	32534	31128	30826	32196
50°	32285	30621	30288	31913
55°	31990	30016	29621	31552
60°	31613	29273	28794	31110
65°	31208	28409	27873	30583
70°	30835	27523	26971	30136
75°	30974	26987	26209	30196
80°	32831	27830	26815	31961
85°	43319	35377	33356	42164

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 315°
 Vertical Angle: 85°
 Luminance: 44330 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	24.9	3.2	3.1
10°-20°	71.5	9.0	9.0
20°-30°	108.6	13.7	13.7
30°-40°	131.4	16.6	16.5
40°-50°	137.3	17.4	17.3
50°-60°	125.5	15.9	15.8
60°-70°	98.2	12.4	12.4
70°-80°	62.6	7.9	7.9
80°-90°	30.0	3.8	3.8
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°	205.0	25.9	25.8
0°-40°	336.4	42.6	42.3
0°-60°	599.1	75.8	75.4
0°-90°	790.0	100.0	99.4
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°	790.0	100.0	99.4

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	264	264	264	264	264	
5°	263	262	262	263	263	25
15°	255	252	252	254	255	72
25°	238	234	233	237	238	110
35°	214	208	206	212	214	134
45°	183	175	173	181	183	141
55°	146	137	135	144	146	130
65°	105	95	94	103	105	104
75°	64	56	54	62	64	68
85°	30	24	23	29	30	34
90°	18	14	12	17	18	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	263.6	263.6	263.6	263.6	263.6	263.6	263.6	263.6	263.6	263.6	263.6
5°	263.0	262.8	262.6	262.2	262.0	261.9	261.7	261.7	261.8	262.0	262.3
10°	260.2	259.8	259.3	258.5	258.1	257.8	257.4	257.5	257.7	258.1	258.7
15°	255.1	254.4	253.7	252.7	252.1	251.5	251.1	251.1	251.5	252.0	252.9
20°	247.7	246.9	245.9	244.6	243.9	243.0	242.5	242.6	243.0	243.9	245.0
25°	238.5	237.5	236.1	234.6	233.6	232.6	232.0	232.0	232.6	233.7	234.9
30°	227.2	226.0	224.3	222.6	221.5	220.3	219.6	219.6	220.3	221.5	223.1
35°	213.9	212.6	210.8	208.9	207.5	206.2	205.4	205.4	206.2	207.6	209.4
40°	199.2	197.6	195.6	193.5	191.9	190.4	189.5	189.6	190.4	192.0	194.2
45°	182.8	180.9	178.9	176.5	174.9	173.3	172.3	172.4	173.2	175.0	177.2
50°	164.9	163.1	160.8	158.1	156.4	154.7	153.7	153.8	154.7	156.6	159.0
55°	145.8	143.8	141.4	138.7	136.8	134.9	134.0	134.0	135.0	137.1	139.6
60°	125.6	123.5	121.0	118.2	116.3	114.3	113.3	113.4	114.4	116.7	119.2
65°	104.8	102.6	100.1	97.3	95.4	93.3	92.4	92.5	93.6	95.9	98.4
70°	83.8	81.7	79.2	76.6	74.8	72.9	72.0	72.1	73.3	75.4	77.9
75°	63.7	61.9	59.5	57.1	55.5	53.7	52.8	52.9	53.9	55.9	58.3
80°	45.3	43.8	42.0	40.0	38.4	36.8	36.0	36.0	37.0	38.8	40.9
85°	30.0	29.0	27.4	25.7	24.5	23.2	22.5	22.4	23.1	24.6	26.4
90°	18.0	17.1	16.0	14.7	13.7	12.7	12.1	12.0	12.5	13.7	15.1



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	263.6	263.6	263.6	263.6	263.6	263.6
5°	262.6	262.7	263.0	263.2	263.2	263.0
10°	259.4	259.7	260.2	260.4	260.4	260.2
15°	253.8	254.3	255.0	255.3	255.4	255.1
20°	246.2	246.8	247.7	248.3	248.3	247.7
25°	236.5	237.3	238.4	238.9	239.0	238.5
30°	224.8	225.7	227.1	227.7	227.8	227.2
35°	211.3	212.4	213.9	214.5	214.7	213.9
40°	196.3	197.4	199.0	199.7	200.0	199.2
45°	179.6	180.9	182.6	183.5	183.7	182.8
50°	161.5	163.0	164.8	165.7	165.8	164.9
55°	142.3	143.8	145.7	146.6	146.7	145.8
60°	121.9	123.6	125.5	126.5	126.6	125.6
65°	101.2	102.7	104.8	105.7	105.8	104.8
70°	80.4	81.9	83.8	84.8	84.7	83.8
75°	60.7	62.1	63.8	64.5	64.5	63.7
80°	43.0	44.1	45.5	46.1	46.0	45.3
85°	28.2	29.2	30.3	30.7	30.6	30.0
90°	16.6	17.3	18.0	18.4	18.3	18.0

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

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

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