

Scaled data based on original data using  
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 COMMERCIAL

Report Number: P21684-R3

Luminaire Tested: **PD8V120 80VWWC-100A21INC**

Issue Date: 03/03/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P21684-R3  
Test Lab: INNOVATION CENTER P2  
Issue Date: 03/03/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: PD8V120 80VWWC-100A21INC  
Description: \*\*\*THIS IS A REVISION OF P21684-R2 TO PRORATE LAMP LUMENS\*\*\*  
HALO 8 INCH RECESSED INCANDESCENT WALL WASH DOWNLIGHT FIXTURE  
IN "A" POSITION , VERTICAL LAMP, SPECULAR CLEAR TRIM  
Light Source: (1) MEDIUM BASE INSIDE FROSTED A21 INCANDESCENT FIXTURE  
100A21 100 WATTS  
Ballast/Driver: CHROMA IN0061  
CHROMA IN0061

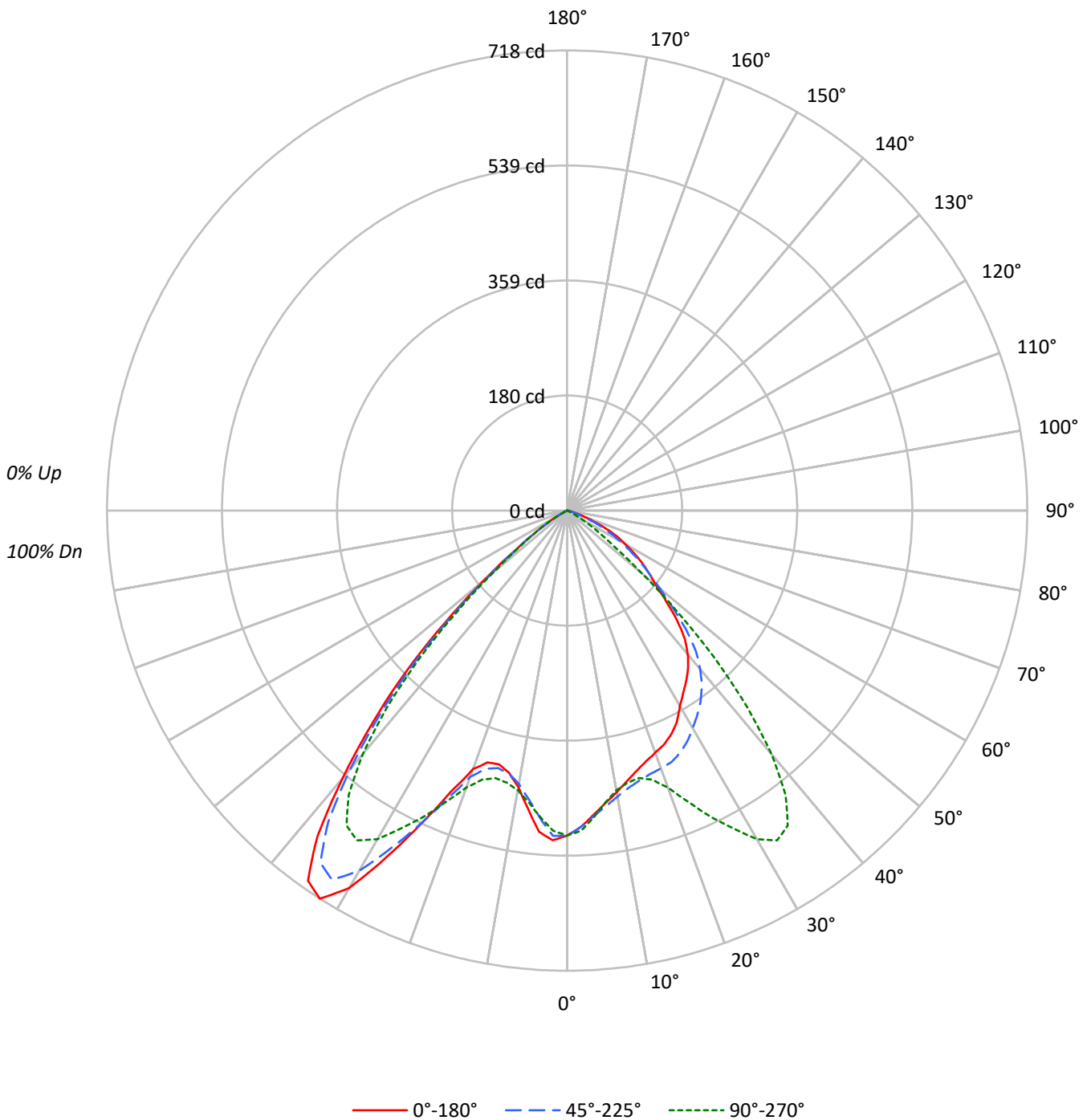
**Summary**

Lumens per Lamp: 1463 (1 lamp)  
Luminaire Lumens: 1065.7 lumens  
Efficiency: 72.8%  
Efficacy: 10.7 lumens/watt  
Spacing Criteria (0/90/45): 1.48 / 1.6 / 1.35  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

Input Watts (W): 100  
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

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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	0
RCR																				
0	87	87	87	87	85	85	85	85	81	81	81		77	77	77		74	74	74	73
1	81	79	77	75	80	77	75	73	74	73	71		72	70	69		69	68	67	66
2	76	71	68	64	74	70	67	64	68	65	62		65	63	61		63	61	60	58
3	71	65	60	56	69	63	59	56	61	58	55		60	56	54		58	55	53	52
4	66	58	53	49	64	58	53	49	56	52	48		54	51	48		53	50	47	46
5	61	53	48	44	60	52	47	43	51	46	43		50	46	42		48	45	42	41
6	57	48	43	39	55	48	42	39	46	42	38		45	41	38		44	41	38	36
7	53	44	39	35	52	44	38	35	43	38	34		42	37	34		41	37	34	33
8	49	40	35	31	48	40	35	31	39	34	31		38	34	31		37	34	31	29
9	46	37	32	28	45	37	32	28	36	31	28		35	31	28		35	31	28	27
10	43	34	29	26	42	34	29	26	33	29	25		33	28	25		32	28	25	24

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

	0°	90°	180°
0°	15634	15634	15634
5°	14734	14858	15570
10°	13965	13871	13715
15°	13408	13791	13089
20°	13192	15095	14078
25°	13099	17897	18339
30°	12534	21079	24213
35°	12197	22587	26539
40°	11794	19966	21938
45°	10597	14173	15525
50°	8683	7196	8059
55°	7688	3387	3387
60°	6476	1233	1048
65°	4962	292	365
70°	2615	270	270
75°	1430	238	238
80°	710	178	178
85°	708	0	0



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	44.7	4.2	3.1	0°	507	507	507	507	507	
10°-20°	121.9	11.4	8.3	5°	476	478	480	482	503	45
20°-30°	226.1	21.2	15.5	15°	420	436	432	416	410	119
30°-40°	324.4	30.4	22.2	25°	385	417	526	538	539	176
40°-50°	233.0	21.9	15.9	35°	324	363	600	671	705	202
50°-60°	84.4	7.9	5.8	45°	243	262	325	342	356	185
60°-70°	24.9	2.3	1.7	55°	143	138	63	63	63	127
70°-80°	5.4	0.5	0.4	65°	68	57	4	4	5	67
80°-90°	0.7	0.1	0.0	75°	12	9	2	2	2	14
90°-100°	0.0	0.0	0.0	85°	2	1	0	0	0	2
100°-110°	0.0	0.0	0.0	90°	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°	392.8	36.9	26.8							
0°-40°	717.2	67.3	49.0							
0°-60°	1034.7	97.1	70.7							
0°-90°	1065.7	100.0	72.8							
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°	1065.7	100.0	72.8							



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	507	507	507	507	507	507	507	507	507	507	507
2.5°	494	492	492	492	492	492	492	493	493	494	495
5°	476	474	474	474	474	475	475	476	477	478	479
7.5°	460	458	458	459	459	460	461	462	464	465	466
10°	446	444	444	445	446	447	448	450	451	453	455
12.5°	432	430	430	431	432	433	436	438	441	443	446
15°	420	418	418	419	420	422	425	429	432	436	439
17.5°	410	407	407	408	410	412	417	422	426	431	436
20°	402	400	399	400	401	405	410	416	422	428	435
22.5°	395	392	391	390	391	395	401	409	416	425	434
25°	385	382	380	378	378	381	389	398	407	417	430
27.5°	371	368	366	363	361	363	373	383	393	406	420
30°	352	350	349	346	344	344	355	367	379	392	408
32.5°	337	335	335	333	330	330	340	353	365	378	395
35°	324	322	321	320	317	317	326	339	350	363	380
37.5°	310	308	307	305	303	304	311	323	333	345	361
40°	293	290	290	288	286	287	293	302	312	323	337
42.5°	272	270	269	267	266	266	272	279	288	297	308
45°	243	241	240	239	237	238	242	249	255	262	270
47.5°	209	208	207	206	205	205	208	214	218	222	227
50°	181	180	179	177	176	176	178	183	186	188	187
52.5°	161	159	159	157	156	155	155	158	161	161	159
55°	143	141	141	140	138	137	136	137	138	138	135
57.5°	124	123	122	121	120	118	117	117	117	116	112
60°	105	104	104	103	102	100	99	98	97	95	90
62.5°	88	87	86	85	84	83	81	80	78	76	70
65°	68	68	67	66	65	64	62	61	59	57	53
67.5°	47	46	46	45	44	43	42	41	39	38	35
70°	29	28	28	28	27	27	26	25	24	23	21
72.5°	19	18	18	18	18	17	17	16	15	15	13
75°	12	12	11	11	11	11	10	10	9	9	8
77.5°	7	7	7	6	6	6	6	6	5	5	4
80°	4	4	4	4	4	4	3	3	3	3	3
82.5°	2	2	2	2	2	2	2	2	2	2	2
85°	2	1	1	1	1	1	1	1	1	1	1
87.5°	1	1	1	1	1	1	1	1	1	1	1
90°	0	0	0	0	0	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	507	507	507	507	507	507	507	507	507	507	507
2.5°	496	497	497	497	498	499	499	500	501	502	503
5°	480	480	481	481	481	481	481	480	480	480	480
7.5°	467	467	467	466	465	464	461	459	457	455	454
10°	456	456	456	455	453	449	446	443	440	438	436
12.5°	448	449	449	448	445	441	438	435	432	430	428
15°	443	445	446	445	442	439	435	432	430	428	426
17.5°	441	446	448	449	447	444	442	440	439	438	436
20°	442	450	457	460	461	461	461	460	460	459	458
22.5°	445	457	469	477	483	486	489	491	492	493	494
25°	445	462	480	494	506	515	522	526	531	534	536
27.5°	438	461	485	506	524	539	550	558	565	571	577
30°	429	458	491	521	546	565	580	592	602	610	618
32.5°	418	450	488	525	554	577	595	610	622	632	642
35°	403	435	474	513	542	566	585	600	612	623	632
37.5°	382	411	447	481	509	530	546	560	570	579	586
40°	355	379	406	432	454	472	485	496	504	510	514
42.5°	322	339	355	370	385	398	406	415	421	425	427
45°	280	290	296	301	307	314	319	325	330	333	335
47.5°	231	235	230	224	222	222	225	231	235	238	239
50°	186	181	166	150	142	141	145	150	153	155	156
52.5°	153	138	120	99	89	88	91	95	97	98	99
55°	128	116	93	71	61	59	61	63	64	64	64
57.5°	105	92	70	50	40	39	39	39	39	39	38
60°	82	69	50	33	24	22	21	20	20	20	19
62.5°	62	49	32	18	11	9	8	8	7	7	7
65°	45	35	22	11	6	5	4	4	4	4	4
67.5°	30	23	14	8	5	4	3	3	3	3	3
70°	18	14	9	6	4	3	3	3	2	2	2
72.5°	11	9	6	4	3	2	2	2	2	2	2
75°	7	5	4	3	2	2	2	2	1	1	1
77.5°	4	3	3	2	2	1	1	1	1	1	1
80°	2	2	2	1	1	1	1	1	1	1	1
82.5°	1	1	1	1	1	1	1	1	0	0	0
85°	1	1	1	1	1	0	0	0	0	0	0
87.5°	1	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	507	507	507	507	507	507	507	507	507	507	507
2.5°	503	504	505	506	507	508	509	510	511	513	513
5°	479	479	479	480	481	482	483	486	488	491	494
7.5°	453	452	452	453	454	455	457	459	460	463	464
10°	434	433	433	433	433	433	434	435	435	436	436
12.5°	425	424	423	422	421	420	420	419	419	419	419
15°	424	423	421	420	418	416	414	413	412	411	411
17.5°	434	432	430	427	424	422	419	417	416	414	413
20°	456	454	451	448	445	442	439	437	434	432	431
22.5°	493	492	490	488	486	485	483	481	479	478	477
25°	538	538	538	538	538	538	538	537	537	538	539
27.5°	580	583	584	587	590	593	595	597	600	602	604
30°	624	628	632	638	644	649	654	659	665	669	671
32.5°	649	655	660	667	675	683	689	696	702	707	710
35°	639	646	652	658	665	671	677	684	689	694	697
37.5°	592	596	600	604	609	613	618	623	627	631	633
40°	516	518	519	521	523	526	529	532	535	538	540
42.5°	428	428	429	429	431	434	436	439	441	444	445
45°	336	336	337	337	340	342	344	347	348	351	353
47.5°	241	240	241	242	244	246	248	250	252	254	255
50°	157	157	158	159	160	161	163	165	165	166	167
52.5°	99	99	99	100	101	101	102	102	103	103	103
55°	63	63	63	63	63	63	63	64	63	64	63
57.5°	37	37	37	36	36	36	36	36	36	36	36
60°	19	18	18	18	18	17	17	17	17	17	17
62.5°	7	6	6	6	6	6	6	7	7	7	7
65°	4	4	4	4	4	4	4	4	4	4	5
67.5°	3	3	3	3	3	3	3	3	3	4	4
70°	2	2	2	2	2	3	3	3	3	3	3
72.5°	2	2	2	2	2	2	2	2	2	2	2
75°	1	1	1	2	2	2	2	2	2	2	2
77.5°	1	1	1	1	1	1	1	2	2	2	2
80°	1	1	1	1	1	1	1	1	1	1	1
82.5°	0	0	0	0	0	0	0	0	0	0	0
85°	0	0	0	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0





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**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	507	507	507	507
2.5°	514	515	516	515
5°	497	500	502	503
7.5°	466	468	469	469
10°	437	438	438	438
12.5°	419	419	419	419
15°	410	410	411	410
17.5°	412	412	412	412
20°	430	430	430	429
22.5°	476	476	476	475
25°	539	540	539	539
27.5°	606	608	609	609
30°	675	678	680	680
32.5°	714	717	718	718
35°	701	703	705	705
37.5°	637	639	640	640
40°	543	544	545	545
42.5°	448	449	450	450
45°	355	356	356	356
47.5°	257	258	258	257
50°	168	168	169	168
52.5°	104	104	104	104
55°	64	63	63	63
57.5°	36	36	36	35
60°	17	17	17	17
62.5°	7	7	7	7
65°	5	5	5	5
67.5°	4	4	4	4
70°	3	3	3	3
72.5°	2	2	2	2
75°	2	2	2	2
77.5°	2	2	2	2
80°	1	1	1	1
82.5°	1	0	1	0
85°	0	0	0	0
87.5°	0	0	0	0
90°	0	0	0	0

(END OF REPORT)