

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: RSA

Report Number: P21993

Luminaire Tested: **ARWW302511E1TW**

Issue Date: 3/3/2020

**Test Information**

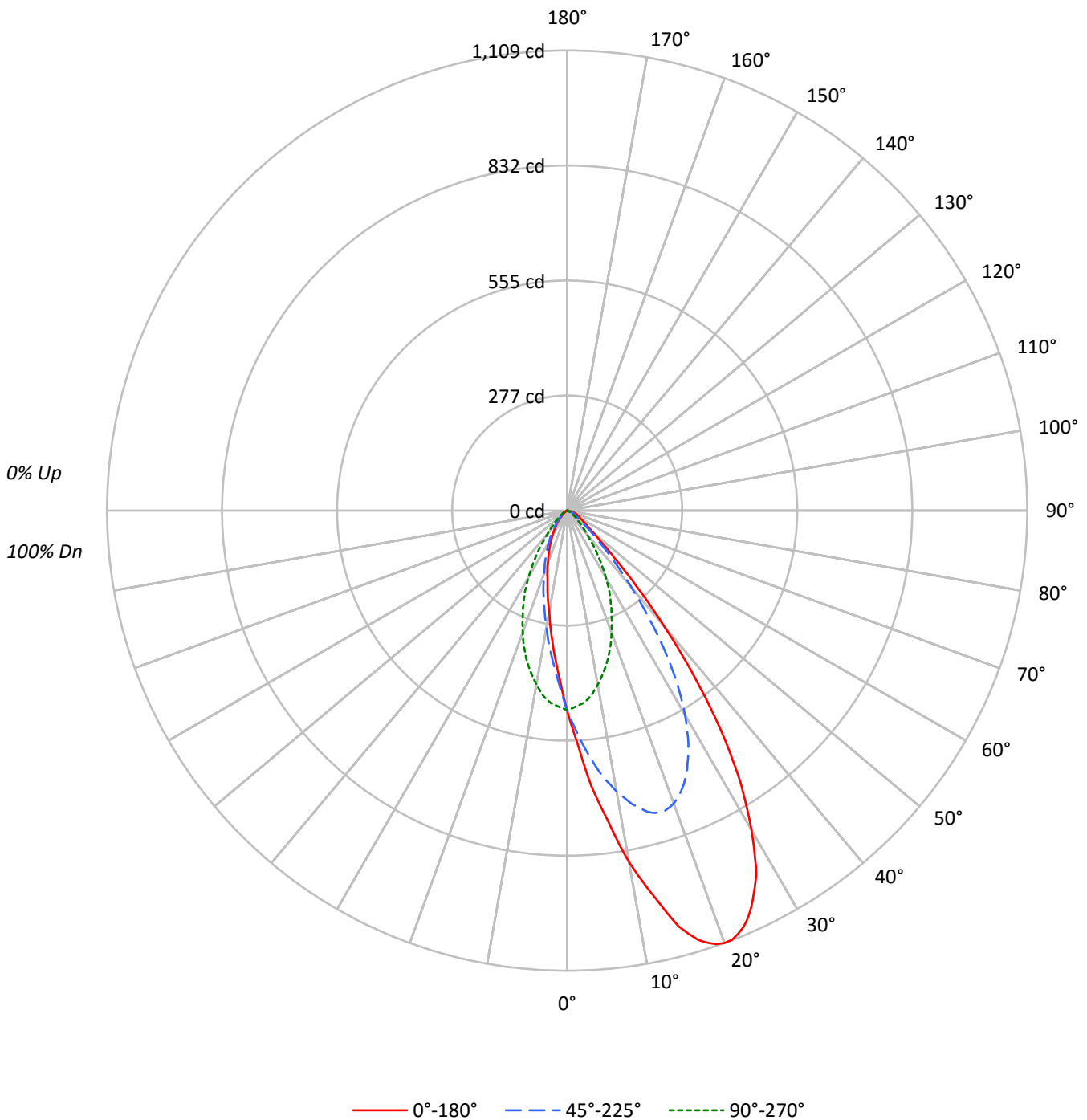
Test Method: LM-79-08  
Report Number: P21993  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: RSA  
Catalog Number: ARWW302511E1TW  
Description: RSA 130 MILLIMETER LED LENSED WALL WASH FIXTURE WITH SEMI  
SPECULAR CLEAR OPTICAL ELEMENT AND 25 DEGREE LED OPTIC.  
Light Source: (1) SMT 3000K LED  
SLM-1100  
Ballast/Driver: (1) PHILIPS ELECTRONIC DRIVER  
NV2I5AE40205

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 607.8 lumens  
Efficiency: N/A  
Efficacy: 31.2 lumens/watt  
Spacing Criteria (0/90/45): 1.3 / 0.78 / 1.01  
Luminous Opening: Vertical Cylinder (Dia: 0.25' x H: 0.1')  
CIE Type: Direct  
  
Input Watts (W): 19.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 0.164  
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	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	113	110	107	105	110	108	105	103	103	101	100	100	98	97	96	95	94					92				
2	106	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86					84				
3	100	93	88	83	98	92	87	83	89	85	81	87	83	80	84	81	79					77				
4	95	86	80	75	93	85	79	75	83	78	74	81	77	73	79	75	72					71				
5	89	80	73	69	87	79	73	68	77	72	68	75	71	67	74	70	67					65				
6	84	74	68	63	83	74	67	63	72	66	62	70	66	62	69	65	61					60				
7	79	69	63	58	78	69	62	58	67	62	58	66	61	57	65	60	57					55				
8	75	65	58	54	74	64	58	54	63	57	53	62	57	53	61	56	53					51				
9	71	61	54	50	70	60	54	50	59	54	50	58	53	49	57	53	49					48				
10	68	57	51	47	66	57	51	46	56	50	46	55	50	46	54	49	46					45				

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

	0°	90°	180°
0°	105474	105474	105474
5°	140135	97989	73334
10°	175916	87038	50670
15°	207147	74909	36356
20°	218320	61618	26773
25°	205683	48684	19552
30°	173949	36394	14088
35°	127471	24666	9866
40°	72799	14840	6418
45°	33080	9246	3698
50°	16771	5944	2335
55°	11066	3763	1328
60°	8622	2330	699
65°	7440	1240	496
70°	5879	534	267
75°	4089	292	292
80°	1949	325	325
85°	369	369	369



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	46.4	7.6
10°-20°	137.1	22.6
20°-30°	185.7	30.5
30°-40°	144.8	23.8
40°-50°	57.9	9.5
50°-60°	20.7	3.4
60°-70°	10.1	1.7
70°-80°	4.3	0.7
80°-90°	0.9	0.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	369.1	60.7
0°-40°	513.9	84.6
0°-60°	592.5	97.5
0°-90°	607.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	607.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	481	481	481	481	481	
5°	665	591	465	372	348	69
15°	1037	752	375	219	182	292
25°	1052	685	249	121	100	476
35°	646	406	125	60	50	394
45°	161	122	45	25	18	140
55°	50	36	17	7	6	47
65°	30	17	5	2	2	29
75°	14	6	1	1	1	14
85°	1	1	1	1	1	2
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	481	481	481	481	481	481	481	481	481	481	481
2.5°	560	564	563	563	563	562	561	559	557	556	555
5°	665	659	658	657	656	654	651	647	644	641	637
7.5°	755	759	757	755	753	749	745	739	733	727	720
10°	861	855	853	850	845	841	833	825	816	807	797
12.5°	946	949	947	943	937	929	919	909	897	884	870
15°	1037	1032	1028	1024	1016	1007	994	981	966	950	931
16°	1061	1058	1054	1048	1040	1030	1018	1003	987	969	950
17°	1082	1078	1074	1068	1059	1049	1036	1020	1003	984	964
18°	1095	1093	1090	1083	1074	1063	1049	1033	1014	994	973
19°	1105	1104	1099	1092	1083	1071	1056	1040	1021	1000	978
20°	1109	1107	1103	1096	1086	1074	1059	1041	1021	1000	977
21°	1108	1106	1102	1095	1084	1072	1056	1038	1019	996	973
22°	1100	1100	1095	1088	1078	1065	1049	1031	1010	988	964
23°	1089	1089	1085	1078	1067	1054	1038	1020	999	977	952
24°	1073	1074	1070	1062	1052	1039	1022	1004	983	961	937
25°	1052	1054	1049	1041	1032	1018	1002	984	963	941	918
27.5°	988	986	980	974	959	947	931	914	895	874	851
30°	889	886	882	875	861	851	837	820	803	784	764
32.5°	778	776	772	765	753	743	730	715	700	683	666
35°	646	645	640	635	622	614	603	590	577	564	549
37.5°	502	501	497	493	489	475	467	457	447	437	426
40°	363	362	359	357	348	344	338	331	324	318	311
42.5°	246	245	243	242	236	233	230	226	223	219	215
45°	161	161	160	159	155	154	152	150	148	147	144
47.5°	109	108	108	107	105	104	103	102	101	100	98
50°	79	79	78	78	76	76	75	74	73	72	71
52.5°	61	61	61	60	59	59	58	57	56	56	55
55°	50	50	50	49	49	48	48	47	46	45	44
57.5°	42	43	42	42	42	41	41	40	39	38	37
60°	37	37	37	37	36	36	35	34	34	33	32
62.5°	33	33	33	33	32	32	31	31	30	29	28
65°	30	30	30	29	29	29	28	27	26	26	25
67.5°	26	26	26	26	25	25	24	24	23	22	21
70°	22	22	22	22	22	21	21	20	19	18	18
72.5°	18	18	18	18	17	17	17	16	15	15	14
75°	14	14	13	13	13	13	12	12	11	11	10
77.5°	9	9	9	9	9	9	9	8	8	8	7
80°	6	6	6	6	6	5	5	5	5	5	5
82.5°	3	3	3	3	3	3	3	3	3	3	3
85°	1	1	1	1	1	1	1	1	1	1	1
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):**

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°	50°	52.5°
0°	481	481	481	481	481	481	481	481	481	481	481
2.5°	552	550	547	545	543	540	537	534	532	528	525
5°	632	627	621	617	611	605	598	591	585	579	571
7.5°	712	703	695	685	676	665	655	644	633	621	611
10°	785	773	759	746	732	717	702	687	672	658	640
12.5°	854	837	820	802	784	764	744	725	704	683	663
15°	913	891	870	848	824	801	776	752	727	702	678
16°	929	907	884	860	835	810	784	758	732	706	679
17°	941	918	893	868	842	815	789	761	733	706	678
18°	950	925	900	874	846	818	790	761	732	703	675
19°	953	928	901	874	846	817	788	757	727	697	669
20°	952	926	899	871	841	812	781	751	720	690	661
21°	948	921	892	864	834	803	773	742	711	681	651
22°	939	911	883	854	824	793	763	731	700	671	638
23°	926	899	870	841	811	780	751	718	687	657	625
24°	910	883	854	825	796	765	733	702	672	642	610
25°	891	864	835	807	777	746	718	685	654	626	593
27.5°	826	799	773	746	717	692	662	633	605	576	544
30°	741	717	693	669	644	622	595	568	543	516	486
32.5°	646	625	603	582	559	540	516	493	470	446	423
35°	532	513	496	479	460	446	426	406	388	368	348
37.5°	412	398	385	373	359	349	334	319	306	291	276
40°	302	293	284	276	267	261	250	240	230	220	209
42.5°	210	205	200	195	189	186	180	173	167	161	154
45°	142	139	136	134	131	130	126	122	118	114	110
47.5°	97	95	94	92	90	90	87	85	83	80	77
50°	70	69	68	66	65	64	63	61	60	58	56
52.5°	54	52	52	51	49	48	47	46	44	43	41
55°	43	42	42	41	39	38	37	36	35	33	32
57.5°	36	35	35	34	33	31	30	29	28	27	26
60°	31	30	29	28	27	26	25	24	23	22	21
62.5°	27	26	25	24	23	22	21	20	19	18	17
65°	24	23	22	21	20	19	18	17	16	15	14
67.5°	20	19	19	18	17	16	15	14	13	12	11
70°	17	16	15	15	14	13	12	11	10	10	9
72.5°	13	13	12	11	11	10	9	9	8	7	7
75°	10	9	9	8	8	7	7	6	6	5	5
77.5°	7	7	6	6	5	5	5	4	4	4	3
80°	4	4	4	4	3	3	3	3	2	2	2
82.5°	2	2	2	2	2	2	2	2	1	1	1
85°	1	1	1	1	1	1	1	1	1	1	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):**

	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77.5°	80°
0°	481	481	481	481	481	481	481	481	481	481	481
2.5°	522	518	515	511	508	504	501	498	494	490	487
5°	564	557	550	542	535	528	521	513	506	499	492
7.5°	599	588	577	565	553	542	531	520	509	499	488
10°	624	608	593	577	562	546	531	517	503	489	476
12.5°	643	623	603	584	565	546	527	509	492	476	460
15°	653	630	606	582	560	538	517	496	476	458	440
16°	653	629	603	579	555	532	511	489	468	448	429
17°	652	625	599	574	549	525	502	480	459	438	419
18°	647	620	593	566	541	516	492	469	448	427	407
19°	641	612	584	557	531	506	481	458	436	415	395
20°	632	602	574	546	520	494	469	446	423	403	382
21°	620	592	562	535	508	481	457	434	411	389	369
22°	608	578	550	522	494	469	444	420	398	376	355
23°	594	565	536	508	481	456	430	406	384	362	342
24°	579	550	521	494	467	441	416	392	370	348	328
25°	564	536	506	478	451	426	401	377	355	335	315
27.5°	518	490	463	434	409	385	361	339	319	299	280
30°	463	437	410	386	362	339	317	297	278	260	243
32.5°	399	376	351	330	309	289	270	252	236	219	204
35°	329	310	289	272	255	238	222	207	193	179	166
37.5°	260	246	233	216	203	189	176	164	153	142	131
40°	198	188	176	166	155	145	135	125	116	107	98
42.5°	146	139	130	122	115	107	99	92	85	78	72
45°	105	100	93	88	83	76	71	66	62	58	54
47.5°	74	71	66	63	59	55	51	49	46	44	42
50°	53	51	48	45	43	41	39	37	36	34	32
52.5°	40	38	36	34	33	32	30	29	28	26	25
55°	31	29	28	27	26	24	23	23	22	21	20
57.5°	24	23	22	21	21	20	18	18	17	16	15
60°	20	19	18	17	16	16	14	14	13	13	12
62.5°	16	15	15	14	13	12	11	11	10	10	9
65°	13	12	12	11	10	9	9	8	8	7	7
67.5°	10	10	9	8	8	7	7	6	6	5	5
70°	8	8	7	6	6	5	5	5	4	4	3
72.5°	6	6	5	5	4	4	4	3	3	3	2
75°	4	4	4	3	3	3	2	2	2	2	2
77.5°	3	3	2	2	2	2	2	2	1	1	1
80°	2	2	1	1	1	1	1	1	1	1	1
82.5°	1	1	1	1	1	1	1	1	1	1	1
85°	0	0	0	1	0	1	0	1	1	0	1
87.5°	0	0	0	0	0	0	0	0	1	0	1
90°	0	0	0	0	0	0	0	0	0	0	0





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**CANDELA DISTRIBUTION (continued):**

	82.5°	85°	87.5°	90°	112.5°	135°	157.5°	180°
0°	481	481	481	481	481	481	481	481
2.5°	483	480	476	473	444	422	409	407
5°	485	478	471	465	412	372	352	348
7.5°	478	469	459	449	377	329	302	296
10°	463	450	437	426	341	287	259	248
12.5°	444	429	415	401	306	250	222	215
15°	422	406	390	375	274	219	191	182
16°	411	394	378	363	261	207	180	171
17°	400	383	366	351	249	195	170	164
18°	389	371	354	339	237	184	160	154
19°	376	358	342	326	224	174	150	145
20°	363	346	328	313	213	164	141	136
21°	350	332	315	300	201	154	133	128
22°	336	319	302	287	192	145	125	121
23°	323	305	289	274	180	137	118	113
24°	310	293	276	262	171	129	111	107
25°	297	280	264	249	161	121	104	100
27.5°	263	247	232	220	138	104	90	85
30°	227	212	199	186	116	88	76	72
32.5°	190	177	166	155	96	73	64	61
35°	154	144	134	125	77	60	53	50
37.5°	121	112	104	98	62	49	43	41
40°	91	84	79	74	50	39	34	32
42.5°	68	64	60	57	40	31	26	24
45°	51	49	47	45	32	25	20	18
47.5°	40	38	36	35	25	19	15	14
50°	31	30	29	28	20	14	11	11
52.5°	24	23	23	22	15	10	8	8
55°	19	18	17	17	11	7	6	6
57.5°	15	14	13	13	8	5	5	5
60°	11	11	10	10	6	4	4	3
62.5°	9	8	7	7	4	3	3	2
65°	6	6	5	5	3	2	2	2
67.5°	5	4	4	4	2	2	1	1
70°	3	3	3	2	1	1	1	1
72.5°	2	2	2	2	1	1	1	1
75°	1	1	1	1	1	1	1	1
77.5°	1	1	1	1	1	1	1	1
80°	1	1	1	1	1	1	0	1
82.5°	1	1	1	1	1	1	1	1
85°	1	1	1	1	1	1	1	1
87.5°	1	1	0	1	1	0	0	0
90°	0	0	0	0	0	0	0	0

(END OF REPORT)