

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: P13479

Luminaire Tested: **ASAS301511E4TW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P13479
Test Lab: PEACHTREE CITY
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: RSA
Catalog Number: ASAS301511E4TW
Description: RSA RECESSED LED SQUARE FIXTURE WITH ADJUSTABLE BRACKET AT 30 DEGREE, 3000K LED LIGHT ENGINE, 15 DEGREE REFLECTOR, WHITE TRIM WITH CLEAR GLASS LENS.
Light Source: (1) PHILIPS FORTIMO SLM 3000K LED
87182911 8708000
Ballast/Driver: (1) PHILIPS ADVANCE ELECTRONIC DRIVER
XR025C100V036XPM1

Summary

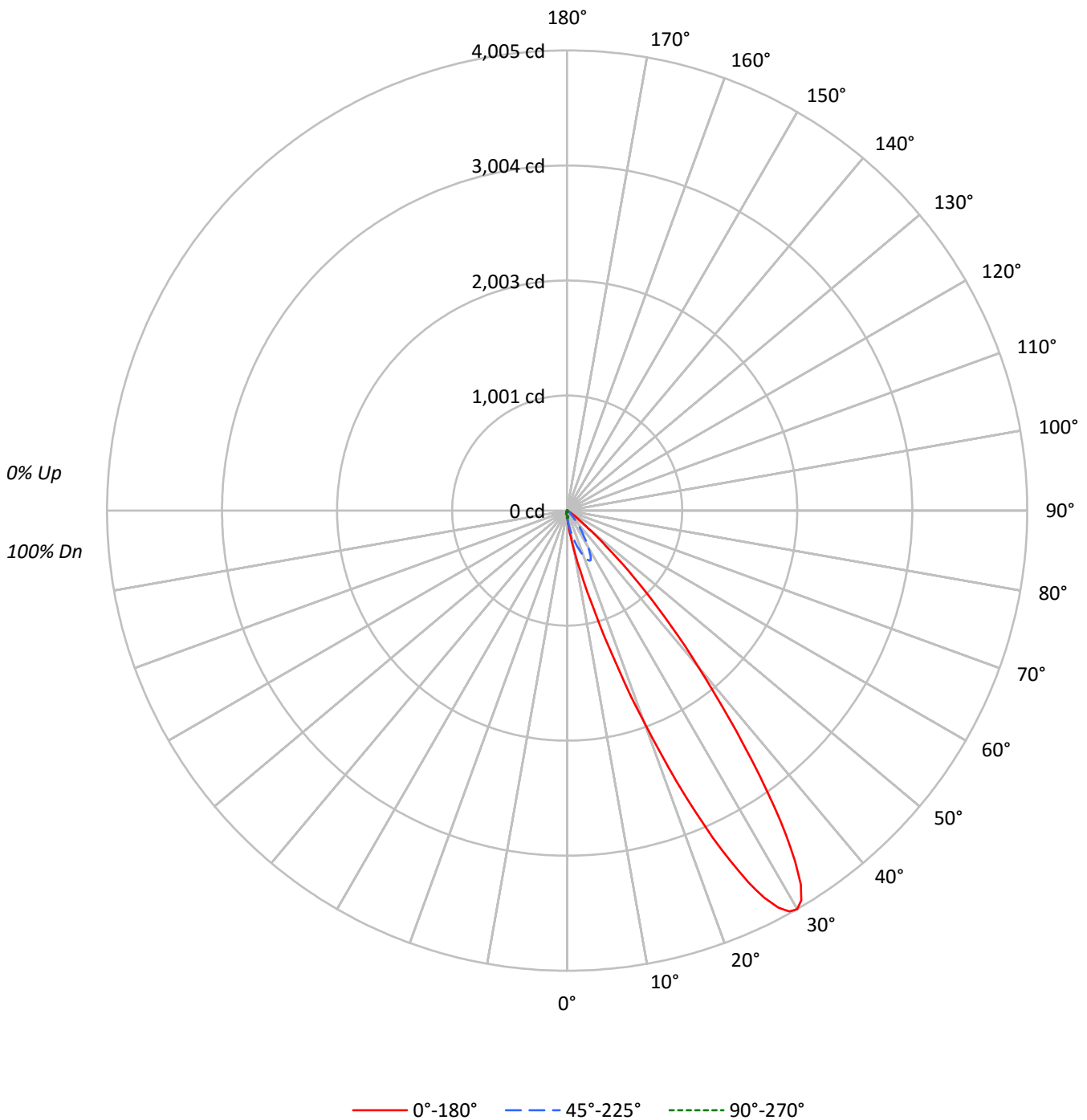
Lumens per Lamp: N/A
Luminaire Lumens: 661.5 lumens
Efficiency: N/A
Efficacy: 31.5 lumens/watt
Spacing Criteria (0/90/45): 2.42 / 0.65 / 1.33
Luminous Opening: Rectangular (W 0.31' x L: 0.31' x H: 0')
CIE Type: Direct

Input Watts (W): 21
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: HR
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	109	106	104	110	107	105	102	103	101	99	99	98	96	96	94	93	91
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	86	84	83
3	99	91	85	80	97	90	84	80	87	82	78	84	81	77	82	79	76	74
4	92	83	77	71	90	82	76	71	80	74	70	78	73	69	76	72	68	67
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	70	65	62	60
6	80	70	62	57	79	69	62	57	67	61	56	66	60	56	64	59	56	54
7	75	64	56	51	73	63	56	51	62	55	51	60	55	51	59	54	50	49
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44
9	65	54	47	42	64	53	46	42	52	46	41	51	45	41	50	45	41	40
10	61	49	42	38	60	49	42	38	48	42	38	47	42	37	46	41	37	36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	6172	6172	6172
5°	15048	6860	3430
10°	38837	5932	1455
15°	98363	4222	456
20°	230956	2815	0
25°	409971	1824	0
30°	509732	891	0
35°	422105	807	0
40°	254821	432	0
45°	128599	0	0
50°	40468	0	0
55°	14413	0	0
60°	5952	220	0
65°	0	0	0
70°	1289	0	322
75°	0	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	8.1	1.2
10°-20°	63.4	9.6
20°-30°	231.0	34.9
30°-40°	250.7	37.9
40°-50°	92.6	14.0
50°-60°	13.5	2.0
60°-70°	1.5	0.2
70°-80°	0.3	0.0
80°-90°	0.3	0.0
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°	302.5	45.7
0°-40°	553.2	83.6
0°-60°	659.4	99.7
0°-90°	661.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	661.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	56	56	56	56	56	
5°	136	108	62	37	31	19
15°	862	305	37	7	4	300
25°	3371	478	15	0	0	1530
35°	3137	224	6	1	0	1889
45°	825	54	0	1	0	669
55°	75	10	0	0	0	84
65°	0	1	0	1	0	6
75°	0	0	0	0	0	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
0°	56	56	56	56	56	56	56	56	56	56	56
2.5°	82	83	82	81	82	82	82	82	82	81	82
5°	136	135	135	136	135	136	134	135	137	133	134
7.5°	217	218	216	216	215	217	216	215	212	212	213
10°	347	346	346	344	345	343	342	341	337	338	335
12.5°	551	552	551	551	549	546	543	539	537	532	528
15°	862	861	862	861	854	851	844	841	835	825	816
17.5°	1337	1335	1337	1327	1319	1310	1298	1280	1267	1251	1235
20°	1969	1970	1962	1948	1937	1914	1886	1865	1825	1798	1769
21°	2248	2250	2235	2223	2205	2178	2156	2122	2080	2044	2001
22°	2542	2538	2523	2502	2488	2463	2427	2386	2333	2291	2238
23°	2830	2825	2807	2793	2771	2735	2699	2650	2594	2533	2475
24°	3116	3104	3090	3073	3040	3013	2964	2906	2843	2775	2710
25°	3371	3368	3358	3336	3297	3261	3209	3152	3084	3005	2929
26°	3602	3593	3581	3555	3518	3481	3424	3357	3288	3200	3119
27°	3782	3777	3762	3737	3698	3654	3595	3528	3451	3361	3271
28°	3913	3908	3893	3863	3826	3779	3712	3644	3558	3465	3369
29°	3989	3983	3966	3934	3892	3841	3774	3698	3615	3518	3417
30°	4005	3995	3976	3946	3897	3841	3775	3696	3607	3511	3411
31°	3957	3944	3923	3891	3841	3787	3716	3640	3550	3449	3349
32°	3836	3823	3801	3769	3722	3670	3600	3518	3431	3331	3231
33°	3643	3637	3621	3587	3545	3490	3421	3343	3257	3159	3063
34°	3409	3405	3387	3359	3321	3269	3200	3128	3043	2948	2864
35°	3137	3128	3117	3085	3049	3001	2945	2877	2798	2720	2633
36°	2846	2838	2823	2799	2766	2721	2670	2612	2541	2469	2396
37°	2556	2551	2537	2513	2485	2444	2399	2347	2289	2225	2165
38°	2281	2277	2260	2235	2210	2177	2139	2097	2042	1991	1936
39°	2014	2015	2004	1985	1960	1930	1900	1862	1818	1774	1731
40°	1771	1770	1766	1747	1723	1704	1675	1641	1612	1576	1534
42.5°	1257	1252	1247	1245	1231	1220	1201	1185	1165	1139	1115
45°	825	824	821	816	810	804	796	788	777	768	754
47.5°	457	453	451	449	448	445	442	442	436	432	429
50°	236	235	234	233	232	232	229	228	225	223	220
52.5°	131	130	126	127	126	125	122	122	125	118	118
55°	75	74	74	74	73	72	71	72	73	69	69
57.5°	46	45	46	45	45	45	44	43	43	45	42
60°	27	27	26	27	27	25	26	25	25	24	24
62.5°	9	8	8	12	7	7	9	8	10	7	8
65°	0	0	0	0	0	1	0	0	0	0	0
67.5°	0	0	1	0	1	0	1	0	0	3	1
70°	4	1	0	1	0	0	2	0	1	0	2
72.5°	0	0	0	2	0	0	0	0	0	0	0
75°	0	0	0	0	0	0	0	0	0	0	0
77.5°	0	0	0	0	0	0	0	0	0	0	0
80°	0	1	1	0	0	1	1	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
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	1	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	12.5°	15°	22.5°	25°	27.5°	30°	32.5°	35°	37.5°	40°	45°
0°	56	56	56	56	56	56	56	56	56	56	56
2.5°	81	82	81	80	80	79	80	77	78	77	76
5°	133	132	128	125	125	122	120	118	115	113	108
7.5°	209	204	193	190	184	179	174	167	164	156	144
10°	329	322	295	284	273	263	249	238	225	213	189
12.5°	518	503	443	423	399	378	354	331	309	287	245
15°	791	762	647	609	568	527	487	447	408	372	305
17.5°	1182	1119	921	850	783	713	650	584	524	467	366
20°	1667	1561	1235	1130	1019	921	823	729	642	562	418
21°	1886	1753	1362	1236	1117	1004	891	790	691	598	438
22°	2099	1944	1478	1339	1202	1077	956	840	734	635	458
23°	2307	2122	1588	1426	1275	1138	1004	882	766	659	469
24°	2509	2304	1687	1506	1339	1188	1045	915	792	679	477
25°	2705	2469	1772	1573	1391	1228	1075	939	808	692	478
26°	2870	2612	1845	1628	1429	1251	1089	943	810	688	469
27°	3004	2724	1893	1658	1448	1263	1093	939	802	675	449
28°	3089	2794	1917	1676	1453	1260	1085	928	782	652	424
29°	3128	2820	1913	1665	1439	1241	1060	902	754	617	393
30°	3114	2796	1878	1627	1401	1204	1023	860	708	574	362
31°	3050	2727	1826	1577	1354	1156	977	814	660	531	331
32°	2935	2617	1753	1508	1289	1098	917	754	605	481	300
33°	2777	2482	1660	1429	1216	1027	848	688	546	433	271
34°	2598	2319	1565	1343	1137	956	775	622	494	390	246
35°	2396	2152	1458	1248	1052	875	703	559	443	352	224
36°	2185	1965	1339	1147	960	790	625	496	392	312	196
37°	1984	1791	1226	1049	868	707	556	439	348	279	177
38°	1779	1615	1109	942	775	621	486	386	308	244	153
39°	1596	1450	998	842	684	544	428	342	273	217	136
40°	1416	1299	893	744	592	468	371	295	235	187	115
42.5°	1046	967	646	523	409	326	259	208	164	132	81
45°	717	671	431	343	273	222	176	141	113	87	54
47.5°	417	391	263	215	176	143	116	92	73	59	35
50°	211	200	146	125	106	88	74	59	47	37	24
52.5°	115	111	81	71	62	53	43	37	29	24	15
55°	65	62	46	41	36	30	26	23	20	15	10
57.5°	39	36	30	24	22	19	18	15	15	11	10
60°	22	21	16	15	15	12	10	9	8	6	2
62.5°	8	12	7	7	6	5	4	5	4	1	2
65°	0	0	0	2	0	1	1	2	0	0	1
67.5°	0	0	0	0	0	0	0	0	2	0	1
70°	2	1	1	1	0	0	0	0	1	1	0
72.5°	0	1	0	1	0	0	0	0	0	0	1
75°	0	0	0	0	0	0	0	0	0	0	0
77.5°	0	0	0	0	0	0	0	0	0	0	0
80°	0	2	0	0	1	1	0	0	0	0	1



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CANDELA DISTRIBUTION (continued):

	12.5°	15°	22.5°	25°	27.5°	30°	32.5°	35°	37.5°	40°	45°
82.5°	0	0	0	0	0	0	0	0	0	0	2
85°	0	0	0	0	0	0	0	0	0	0	0
87.5°	0	1	0	1	0	1	1	0	1	1	2
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	67.5°	90°	112.5°	135°	157.5°	180°
0°	56	56	56	56	56	56
2.5°	69	62	55	51	48	46
5°	84	62	48	37	33	31
7.5°	93	60	35	25	20	18
10°	102	53	29	18	15	13
12.5°	108	45	20	15	9	9
15°	109	37	14	7	5	4
17.5°	108	34	13	5	2	2
20°	98	24	7	1	0	0
21°	97	22	7	3	0	0
22°	91	20	7	3	1	0
23°	84	17	4	4	0	0
24°	79	15	5	0	1	0
25°	74	15	3	0	0	0
26°	67	12	2	0	0	0
27°	62	12	0	0	0	0
28°	57	12	3	0	0	0
29°	52	10	3	0	0	0
30°	49	7	0	0	0	0
31°	42	8	0	0	0	0
32°	38	7	0	0	0	0
33°	32	4	0	0	0	0
34°	30	5	0	0	0	0
35°	26	6	1	1	0	0
36°	22	2	0	0	1	0
37°	21	4	0	0	0	0
38°	17	2	0	0	0	0
39°	17	2	0	0	0	0
40°	11	3	0	0	0	0
42.5°	10	2	0	0	0	0
45°	7	0	0	1	0	0
47.5°	3	0	0	0	0	0
50°	2	0	0	0	0	0
52.5°	0	0	1	1	0	0
55°	0	0	0	0	0	0
57.5°	0	0	2	0	2	0
60°	0	1	0	1	0	0
62.5°	3	0	1	0	0	0
65°	0	0	1	1	2	0
67.5°	1	1	2	1	0	1
70°	0	0	0	2	1	1
72.5°	1	0	0	0	1	0
75°	0	0	0	0	0	0
77.5°	0	0	0	0	0	1
80°	0	0	2	0	2	0



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CANDELA DISTRIBUTION (continued):

	67.5°	90°	112.5°	135°	157.5°	180°
82.5°	0	0	0	1	0	0
85°	0	0	0	0	0	0
87.5°	0	0	1	1	0	1
90°	0	0	0	0	0	0

(END OF REPORT)