

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: P13480

Luminaire Tested: **ASAS304011E4TW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P13480
Test Lab: PEACHTREE CITY
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: RSA
Catalog Number: ASAS304011E4TW
Description: RSA RECESSED LED SQUARE FIXTURE WITH ADJUSTABLE BRACKET AT 30 DEGREE, 3000K LED LIGHT ENGINE, 40 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

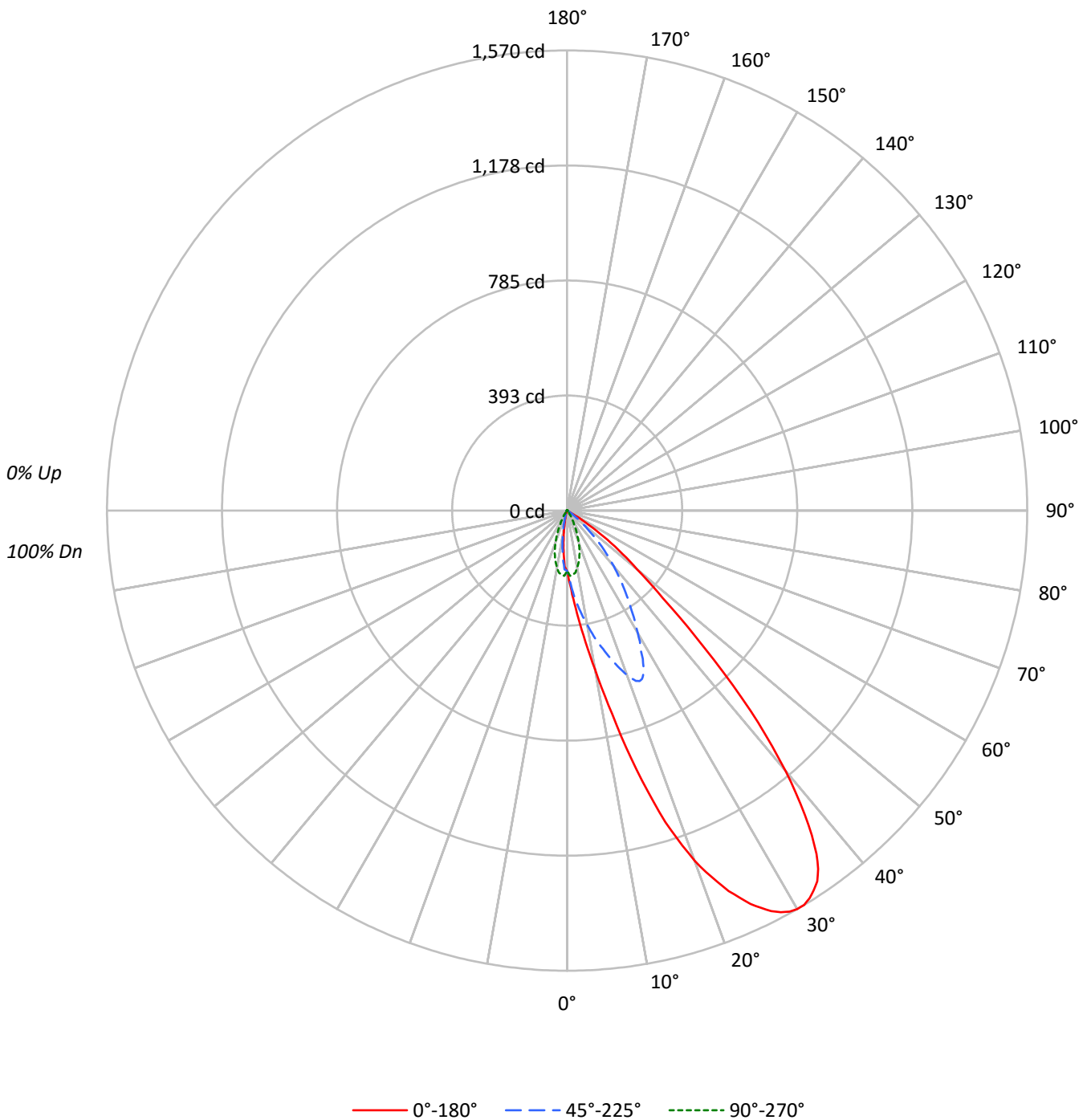
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 577.2 lumens
Efficiency: N/A
Efficacy: 27.5 lumens/watt
Spacing Criteria (0/90/45): 2.05 / 0.7 / 1.21
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

TEST NUMBER: P13480
CATALOG NUMBER: ASAS304011E4TW

Luminous Intensity Polar Plot





TEST NUMBER: P13480

CATALOG NUMBER: ASAS304011E4TW

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	109	106	104	110	107	105	102	103	101	99	99	98	96	96	95	93	91					91			
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	87	84	83					83			
3	99	91	85	81	97	90	84	80	87	83	79	85	81	78	82	79	76	75					75			
4	93	84	77	72	91	82	76	72	80	75	71	78	73	70	76	72	69	67					67			
5	87	77	70	65	85	76	69	64	74	68	64	72	67	63	70	66	62	61					61			
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	57	55					55			
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	51	50					50			
8	71	60	53	48	70	59	52	48	58	52	47	57	51	47	56	51	47	45					45			
9	67	55	48	44	65	55	48	43	54	48	43	53	47	43	52	47	43	41					41			
10	63	51	44	40	62	51	44	40	50	44	40	49	43	40	48	43	39	38					38			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	22596	22596	22596
5°	36955	24342	15269
10°	61558	22161	6044
15°	104297	18372	1940
20°	149084	13606	469
25°	180115	8148	0
30°	199820	4327	127
35°	200893	2018	0
40°	166907	1007	144
45°	102880	468	156
50°	53500	171	171
55°	25750	384	577
60°	3307	220	220
65°	261	261	522
70°	0	0	967
75°	0	0	1278
80°	0	0	1269
85°	0	1265	1265



TEST NUMBER: P13480

CATALOG NUMBER: ASAS304011E4TW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	22.4	3.9
10°-20°	85.4	14.8
20°-30°	167.2	29.0
30°-40°	179.3	31.1
40°-50°	96.4	16.7
50°-60°	23.9	4.1
60°-70°	1.6	0.3
70°-80°	0.6	0.1
80°-90°	0.4	0.1
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°	274.9	47.6
0°-40°	454.2	78.7
0°-60°	574.5	99.5
0°-90°	577.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	577.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	205	205	205	205	205	
5°	334	299	220	162	138	38
15°	914	497	161	37	17	270
25°	1481	615	67	1	0	680
35°	1493	356	15	0	0	903
45°	660	149	3	0	1	526
55°	134	22	2	1	3	128
65°	1	0	1	2	2	3
75°	0	0	0	1	3	0
85°	0	0	1	0	1	1
90°	0	0	0	0	0	



TEST NUMBER: P13480

CATALOG NUMBER: ASAS304011E4TW

CANDELA DISTRIBUTION (FULL):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
0°	205	205	205	205	205	205	205	205	205	205	205
2.5°	256	256	258	257	257	256	256	257	257	255	255
5°	334	335	334	336	336	334	334	334	334	333	333
7.5°	429	432	432	431	431	431	429	428	428	428	428
10°	550	551	551	551	551	550	548	548	545	545	546
12.5°	711	711	710	709	708	707	703	702	700	696	691
15°	914	913	912	912	909	906	903	901	895	888	885
17.5°	1115	1117	1119	1117	1113	1109	1104	1099	1096	1089	1083
20°	1271	1273	1271	1269	1264	1263	1259	1256	1249	1242	1237
21°	1321	1321	1320	1318	1315	1312	1310	1304	1298	1294	1285
22°	1365	1367	1365	1364	1361	1359	1355	1349	1344	1339	1332
23°	1410	1409	1407	1406	1403	1400	1396	1392	1385	1379	1373
24°	1445	1446	1445	1444	1440	1439	1433	1431	1424	1416	1410
25°	1481	1479	1478	1476	1472	1471	1467	1461	1454	1451	1442
26°	1508	1510	1511	1507	1504	1503	1498	1492	1486	1478	1471
27°	1534	1534	1533	1533	1529	1525	1523	1517	1511	1505	1494
28°	1552	1553	1552	1551	1548	1544	1542	1535	1532	1520	1511
29°	1565	1568	1565	1564	1561	1559	1555	1548	1541	1532	1525
30°	1570	1573	1571	1569	1563	1561	1555	1550	1541	1532	1524
31°	1570	1570	1569	1568	1565	1560	1555	1550	1543	1532	1524
32°	1560	1561	1561	1558	1555	1550	1546	1539	1531	1521	1513
33°	1545	1548	1545	1544	1538	1533	1529	1522	1511	1502	1492
34°	1526	1528	1523	1519	1515	1511	1505	1498	1488	1479	1465
35°	1493	1494	1491	1486	1482	1475	1469	1462	1453	1444	1433
36°	1448	1450	1447	1443	1439	1433	1424	1414	1406	1396	1383
37°	1387	1389	1387	1381	1378	1370	1364	1353	1345	1336	1324
38°	1318	1318	1317	1313	1310	1306	1296	1287	1280	1268	1258
39°	1241	1240	1238	1237	1233	1227	1220	1210	1201	1192	1182
40°	1160	1159	1156	1157	1150	1145	1140	1133	1123	1111	1101
42.5°	927	927	924	923	920	918	914	908	906	897	885
45°	660	660	660	659	656	659	657	653	650	648	640
47.5°	443	444	447	445	447	447	444	441	440	436	431
50°	312	314	315	316	313	311	310	308	306	303	300
52.5°	222	219	218	216	216	216	216	215	215	210	207
55°	134	133	134	133	132	132	133	131	132	129	128
57.5°	61	62	62	61	61	61	61	61	62	62	66
60°	15	15	15	16	16	16	15	16	16	17	17
62.5°	5	4	3	1	1	1	2	3	3	1	1
65°	1	1	1	1	1	0	1	1	0	0	1
67.5°	0	0	0	0	0	0	0	0	0	0	4
70°	0	0	0	0	1	1	1	0	0	1	0
72.5°	0	1	2	0	0	0	1	1	0	0	0
75°	0	0	0	0	0	0	0	0	0	0	0
77.5°	0	1	1	0	0	1	2	0	0	0	1
80°	0	0	0	1	0	0	1	1	0	1	0



TEST NUMBER: P13480

CATALOG NUMBER: ASAS304011E4TW

CANDELA DISTRIBUTION (continued):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
82.5°	2	0	0	0	0	0	0	0	0	0	0
85°	0	0	0	0	0	0	1	0	0	0	2
87.5°	0	1	1	0	0	0	0	1	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P13480

CATALOG NUMBER: ASAS304011E4TW

CANDELA DISTRIBUTION (continued):

	12.5°	15°	22.5°	25°	27.5°	30°	32.5°	35°	37.5°	40°	45°
0°	205	205	205	205	205	205	205	205	205	205	205
2.5°	255	256	255	254	253	254	251	252	251	249	247
5°	331	332	325	321	320	316	312	309	307	303	299
7.5°	424	419	405	401	396	390	385	377	371	362	347
10°	539	530	507	497	487	474	465	451	439	425	396
12.5°	681	671	629	613	593	575	555	534	513	491	449
15°	871	853	783	754	723	692	659	626	593	560	497
17.5°	1064	1043	952	909	866	825	777	730	683	638	549
20°	1216	1185	1075	1033	985	931	878	824	767	712	597
21°	1263	1233	1117	1070	1017	961	907	849	791	731	613
22°	1306	1279	1152	1100	1045	986	931	869	807	748	627
23°	1348	1317	1185	1129	1070	1007	946	883	821	758	632
24°	1386	1354	1213	1155	1091	1024	957	891	825	760	629
25°	1416	1383	1233	1170	1104	1034	962	892	821	754	615
26°	1446	1413	1254	1189	1117	1042	967	892	814	742	595
27°	1467	1433	1268	1200	1124	1044	963	883	801	721	568
28°	1483	1448	1278	1205	1122	1040	952	867	781	698	531
29°	1495	1461	1276	1202	1114	1029	938	846	758	670	512
30°	1497	1456	1265	1182	1095	1006	912	814	722	632	481
31°	1492	1448	1244	1164	1074	981	880	783	688	600	455
32°	1480	1435	1221	1136	1042	944	842	740	647	563	429
33°	1459	1409	1188	1100	1003	900	796	699	609	531	402
34°	1430	1375	1148	1059	955	853	748	653	568	497	379
35°	1391	1333	1099	1009	907	801	700	607	531	463	356
36°	1341	1281	1046	953	850	741	645	563	493	431	332
37°	1280	1223	987	889	785	681	593	517	452	398	309
38°	1215	1156	925	830	726	626	545	479	421	371	289
39°	1139	1085	857	765	662	572	500	440	387	343	268
40°	1058	1009	789	695	602	521	455	402	355	316	247
42.5°	850	805	610	528	460	405	360	322	287	256	197
45°	615	587	445	391	347	312	280	253	225	198	149
47.5°	412	390	314	287	258	235	211	189	169	147	102
50°	286	271	223	204	190	173	155	139	120	103	68
52.5°	198	187	149	138	123	112	101	89	79	65	37
55°	126	121	93	84	75	66	57	52	45	38	22
57.5°	61	59	48	43	39	34	33	27	23	19	9
60°	16	19	19	17	15	14	13	11	10	6	1
62.5°	2	1	6	6	4	7	5	3	2	2	1
65°	0	1	1	1	2	1	1	3	1	1	0
67.5°	0	0	0	0	0	0	2	0	0	0	1
70°	0	0	0	1	1	0	0	0	0	0	0
72.5°	1	0	1	1	0	2	1	0	0	0	0
75°	1	0	0	1	0	0	0	1	0	1	0
77.5°	1	0	1	0	0	1	0	0	1	0	0
80°	0	0	2	0	0	1	1	0	0	0	0



TEST NUMBER: P13480

CATALOG NUMBER: ASAS304011E4TW

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	0
85°	1	0	0	1	0	0	0	0	0	0	0
87.5°	1	1	2	1	0	1	1	0	0	1	0
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P13480

CATALOG NUMBER: ASAS304011E4TW

CANDELA DISTRIBUTION (continued):

	67.5°	90°	112.5°	135°	157.5°	180°
0°	205	205	205	205	205	205
2.5°	236	223	211	201	195	192
5°	257	220	189	162	146	138
7.5°	274	214	159	122	98	90
10°	284	198	131	85	61	54
12.5°	287	181	106	57	35	29
15°	284	161	80	37	18	17
17.5°	277	141	61	23	10	8
20°	260	116	42	14	5	4
21°	251	107	35	11	3	3
22°	241	96	31	8	3	2
23°	231	87	28	8	1	1
24°	224	77	23	5	1	0
25°	208	67	17	1	0	0
26°	198	61	17	2	0	1
27°	188	52	13	2	0	1
28°	181	45	14	2	1	1
29°	167	40	11	3	1	2
30°	151	34	7	0	0	1
31°	143	30	7	2	2	1
32°	132	25	5	1	1	0
33°	121	21	5	1	0	1
34°	110	19	6	3	1	1
35°	99	15	3	0	1	0
36°	87	13	2	1	0	0
37°	75	9	0	0	0	0
38°	67	11	2	2	1	1
39°	58	8	2	0	1	1
40°	49	7	1	1	0	1
42.5°	33	4	1	1	0	2
45°	20	3	0	0	1	1
47.5°	10	0	0	0	0	0
50°	6	1	1	1	1	1
52.5°	2	1	1	0	1	0
55°	1	2	2	1	2	3
57.5°	0	2	4	2	1	2
60°	1	1	1	1	1	1
62.5°	2	1	4	3	2	3
65°	0	1	1	2	2	2
67.5°	0	0	0	2	1	1
70°	0	0	0	0	2	3
72.5°	0	0	0	2	1	2
75°	0	0	0	1	1	3
77.5°	0	1	1	1	1	2
80°	0	0	1	0	1	2



TEST NUMBER: P13480

CATALOG NUMBER: ASAS304011E4TW

CANDELA DISTRIBUTION (continued):

	67.5°	90°	112.5°	135°	157.5°	180°
82.5°	1	1	0	1	0	2
85°	0	1	0	0	1	1
87.5°	1	0	0	0	0	1
90°	0	0	0	0	0	0

(END OF REPORT)