

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

Report Number: P407859

Luminaire Tested: **ALS4A40-DL**

Issue Date: 08/27/2020

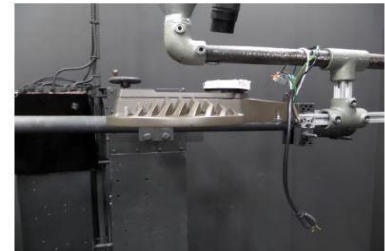
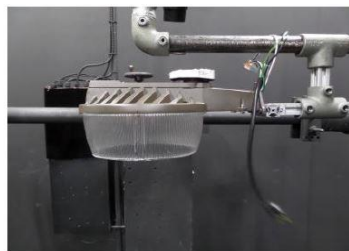
Test Information

Test Method: LM-79-08
Report Number: P407859
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2006-852-14)
Test Lab: INNOVATIONS CENTER(G1)
Issue Date: 08/27/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ALS4A40-DL
Description: HALO OUTDOOR BARN LIGHT STANDARD 4000LM W/ DROP LENS
Light Source: (52) 4000K CCT, 70 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4174.2 lumens
Efficiency: N/A
Efficacy: 154.0 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 0.67' x H: 0.25')
IES Classification: Type V - Short - Cutoff
BUG Rating: B2 - U2 - G1

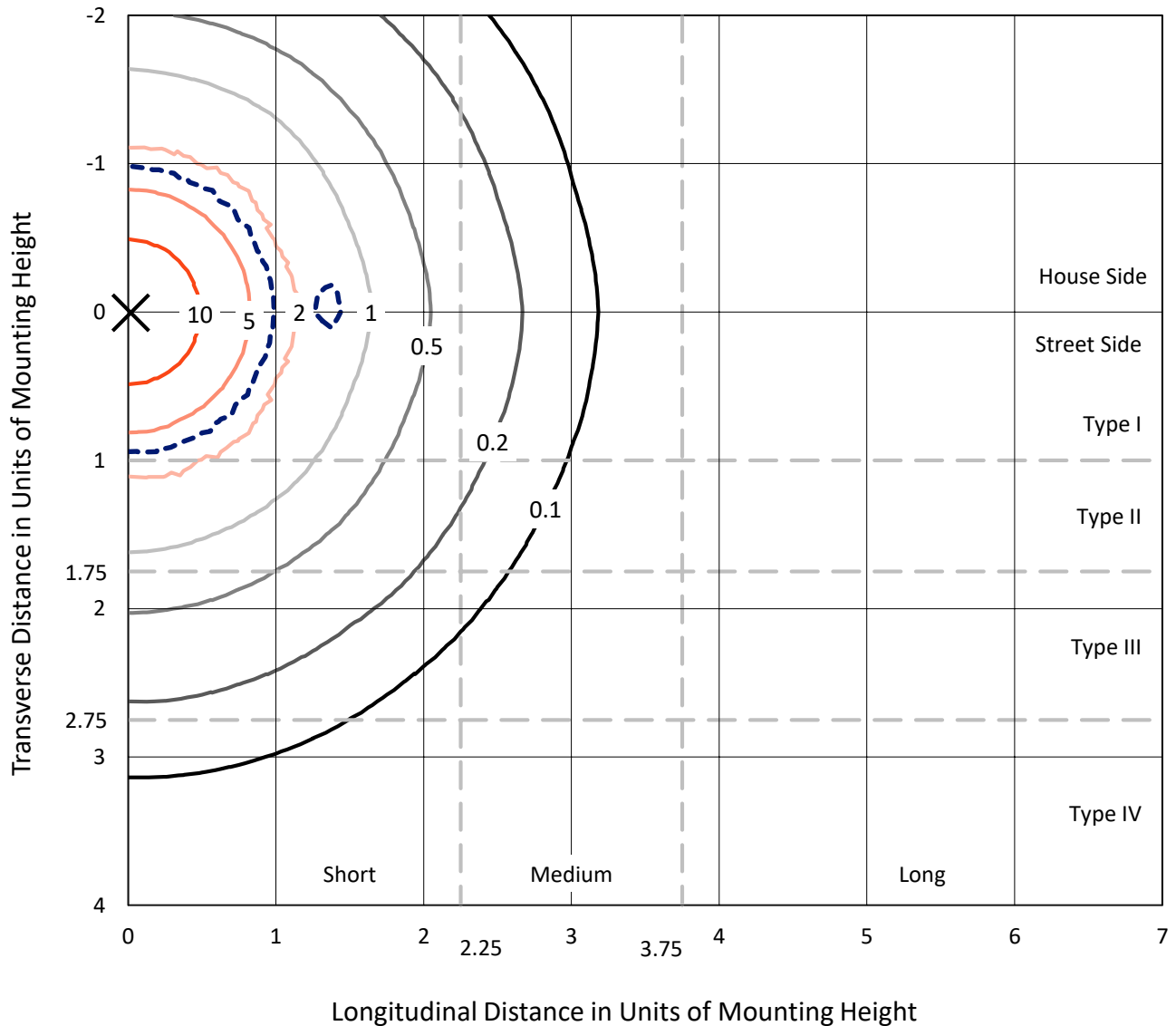
Input Watts (W): 27.1
Input Voltage (V): 120.0
Input Current (A_{in}): 0.230
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P407859
 CATALOG NUMBER: ALS4A40-DL

Iso-Footcandle Lines of Horizontal Illumination

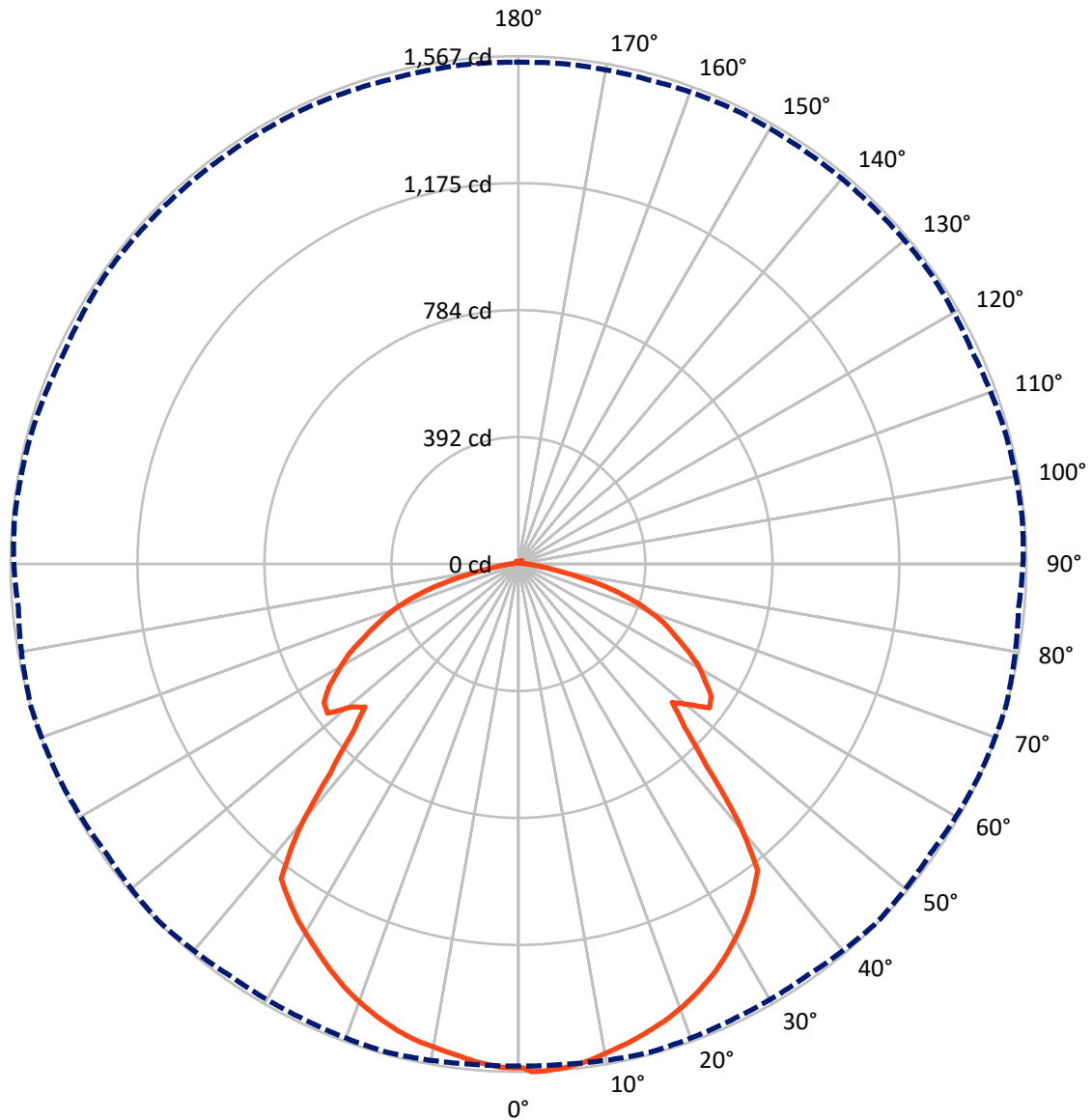
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 15.6 fc
 Type V - Short - Cutoff

REPORT NUMBER: P407859
CATALOG NUMBER: ALS4A40-DL

Luminous Intensity Polar Plot



— Vertical Plane Through 74-Deg Lateral - - - Horizontal Cone Through 1-Deg Vertical

REPORT NUMBER: P407859
 CATALOG NUMBER: ALS4A40-DL

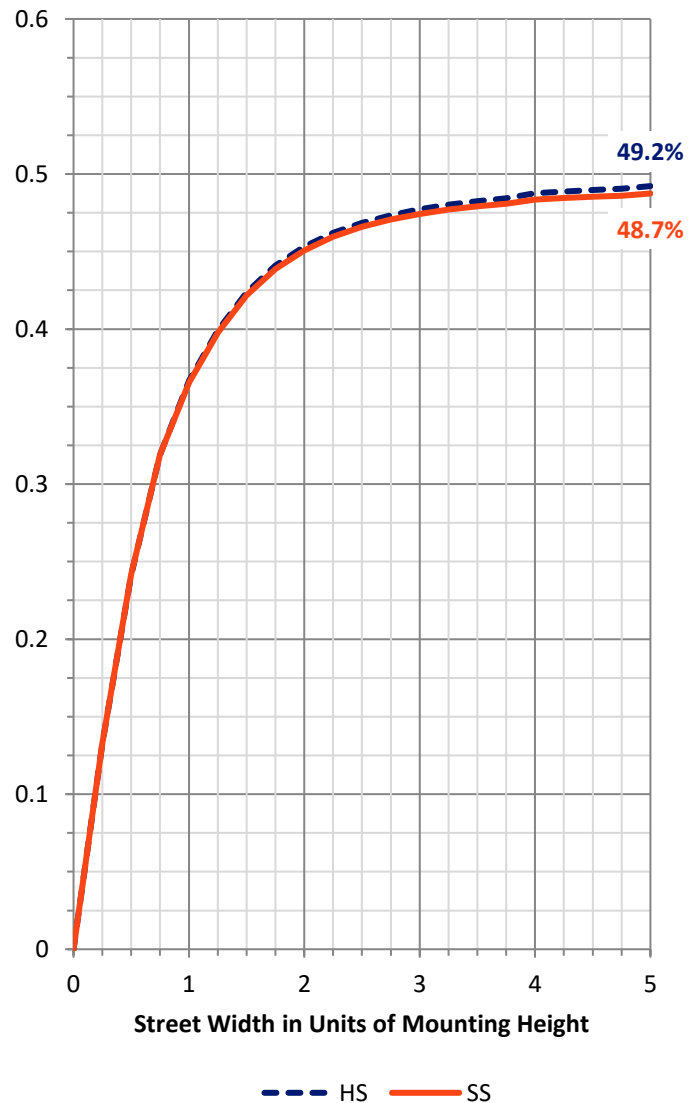
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2072.1	27.2	2099.3
	% Fixture	49.6	0.7	50.3
Street Side	Lumens	2042.2	32.7	2075.0
	% Fixture	48.9	0.8	49.7
Total	Lumens	4114.4	59.9	4174.2
	% Fixture	98.6	1.4	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.7	3.5
10°-20°	420.1	10.1
20°-30°	641.4	15.4
30°-40°	772.2	18.5
40°-50°	595.3	14.3
50°-60°	645.9	15.5
60°-70°	535.1	12.8
70°-80°	293.6	7.0
80°-90°	64.1	1.5
90°-100°	18.5	0.4
100°-110°	10.8	0.3
110°-120°	6.6	0.2
120°-130°	6.4	0.2
130°-140°	7.8	0.2
140°-150°	6.5	0.2
150°-160°	2.8	0.1
160°-170°	0.4	0.0
170°-180°	0.1	0.0
0°-90°	4114.4	98.6
0°-180°	4174.2	100.0



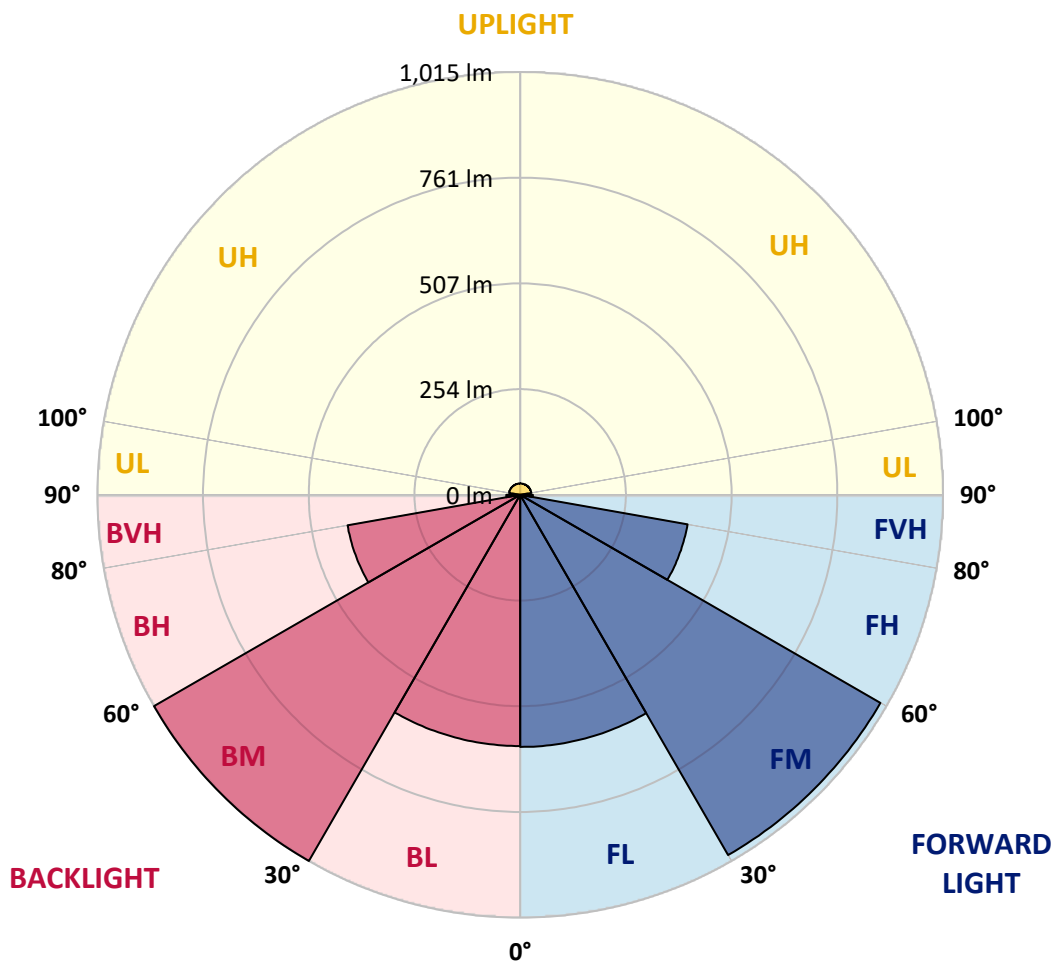
REPORT NUMBER: P407859
 CATALOG NUMBER: ALS4A40-DL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	605.2	14.5			
FM	(30°-60°)	998.4	23.9			
FH	(60°-80°)	408.0	9.8			G0/660
FVH	(80°-90°)	30.6	0.7			G1/100
BL	(0°-30°)	603.0	14.4	B2/1000		
BM	(30°-60°)	1014.9	24.3	B2/2500		
BH	(60°-80°)	420.7	10.1	B1/500		G0/660
BVH	(80°-90°)	33.5	0.8			G1/100
UL	(90°-100°)	18.5	0.4		U2/50	
UH	(100°-180°)	27.2	0.7		U2/50	

BUG Rating: B2-U2-G1

Type V Short





REPORT NUMBER: P407859
 CATALOG NUMBER: ALS4A40-DL

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	74°	75°	85°
0°	1555	1555	1555	1555	1555	1555	1555	1555	1555	1555	1555
1°	1549	1550	1560	1553	1551	1564	1554	1564	1567	1565	1549
2.5°	1547	1548	1558	1550	1548	1563	1553	1563	1566	1565	1548
5°	1539	1541	1550	1545	1543	1556	1547	1558	1560	1558	1540
7.5°	1528	1530	1540	1536	1533	1546	1536	1546	1548	1545	1526
10°	1515	1517	1527	1523	1518	1532	1522	1533	1531	1528	1511
12.5°	1502	1503	1512	1507	1502	1515	1507	1516	1515	1513	1498
15°	1482	1484	1492	1489	1484	1497	1488	1499	1497	1496	1481
17.5°	1462	1464	1472	1468	1462	1477	1469	1479	1478	1476	1463
20°	1442	1442	1448	1446	1440	1456	1448	1457	1455	1454	1442
22.5°	1416	1419	1425	1421	1415	1429	1421	1431	1429	1428	1414
25°	1390	1392	1397	1393	1388	1400	1391	1401	1400	1400	1385
27.5°	1359	1362	1365	1360	1355	1365	1360	1370	1366	1365	1353
30°	1327	1327	1327	1325	1316	1329	1325	1335	1329	1330	1319
32.5°	1286	1291	1293	1290	1279	1291	1284	1297	1290	1292	1286
35°	1241	1245	1251	1249	1237	1244	1238	1249	1247	1250	1244
37.5°	1206	1202	1191	1190	1178	1177	1185	1201	1199	1203	1204
40°	946	969	986	981	1015	1021	1030	1043	1045	1042	1057
42.5°	831	828	817	833	831	836	845	852	849	855	855
45°	677	693	708	701	700	715	703	706	720	723	751
47.5°	628	640	634	643	655	665	650	635	638	640	669
50°	727	732	728	721	718	720	694	686	681	682	723
52.5°	762	762	758	757	758	758	744	738	738	744	788
55°	743	743	736	732	730	737	729	722	722	727	768
57.5°	705	702	691	686	688	696	686	679	679	686	722
60°	658	656	644	640	641	645	640	631	638	642	672
62.5°	606	606	595	589	587	594	586	579	584	590	624
65°	549	546	548	536	529	537	529	528	530	538	556
67.5°	487	491	483	474	464	475	473	470	483	486	505
70°	422	427	418	413	402	411	410	414	421	425	444
72.5°	352	355	355	351	343	342	340	342	352	356	366
75°	266	270	269	274	277	275	273	273	277	276	288
77.5°	189	191	194	196	192	193	188	184	186	184	194
80°	112	116	116	115	115	118	117	116	116	117	120
82.5°	68	68	69	71	71	71	71	72	71	71	72
85°	50	51	50	50	48	48	48	48	49	49	49
87.5°	37	37	36	35	35	34	34	34	34	35	34
90°	24	24	25	24	24	24	24	25	25	25	25
92.5°	20	20	20	19	19	19	20	20	20	20	20
95°	16	16	16	16	16	16	16	16	16	16	16
97.5°	14	14	14	14	14	14	14	14	14	14	14
100°	13	13	13	13	13	13	13	13	13	13	13
102.5°	11	11	11	11	11	11	11	12	11	12	11
105°	11	11	11	11	11	11	11	11	11	11	11
107.5°	10	10	10	10	10	10	10	10	10	10	10



REPORT NUMBER: P407859
 CATALOG NUMBER: ALS4A40-DL

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	74°	75°	85°
110°	8	8	8	9	9	9	8	8	8	8	8
112.5°	7	7	9	8	8	8	8	8	7	7	7
115°	7	7	8	8	7	8	7	7	7	7	7
117.5°	7	7	7	7	7	8	7	7	7	7	6
120°	7	7	7	7	8	9	8	7	7	7	6
122.5°	9	8	8	8	9	10	8	7	7	7	6
125°	12	11	9	9	9	10	9	8	7	7	6
127.5°	15	14	13	11	10	10	10	10	9	9	7
130°	16	16	16	13	10	10	11	12	10	10	8
132.5°	16	18	18	15	11	10	12	14	12	12	9
135°	15	16	17	15	13	10	12	14	14	13	10
137.5°	13	14	16	16	13	10	12	14	14	13	11
140°	11	13	14	15	13	10	11	13	13	13	12
142.5°	10	10	12	13	12	11	11	12	12	12	13
145°	8	8	9	12	12	11	10	11	11	11	13
147.5°	7	7	8	10	11	10	10	10	10	9	12
150°	6	6	7	8	9	8	8	8	9	8	10
152.5°	5	5	5	7	8	7	7	7	7	7	8
155°	4	4	4	5	6	6	6	6	6	6	6
157.5°	3	3	3	4	4	4	4	4	4	4	5
160°	2	2	2	2	3	3	3	3	3	3	3
162.5°	1	1	1	1	2	2	2	2	2	2	2
165°	1	1	1	1	1	1	1	1	1	1	1
167.5°	1	1	1	1	1	1	1	1	1	1	1
170°	1	1	1	1	1	1	1	1	1	1	1
172.5°	1	1	1	1	1	1	1	1	1	1	1
175°	1	1	1	1	1	1	1	1	1	1	1
177.5°	1	1	1	1	1	1	1	1	1	1	1
180°	1	1	1	1	1	1	1	1	1	1	1



REPORT NUMBER: P407859
 CATALOG NUMBER: ALS4A40-DL

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1555	1555	1555	1555	1555	1555	1555	1555	1555	1555	1555
1°	1557	1561	1556	1546	1556	1553	1551	1552	1547	1550	1548
2.5°	1557	1558	1555	1543	1553	1550	1548	1548	1543	1546	1546
5°	1547	1550	1544	1535	1545	1542	1540	1541	1537	1539	1539
7.5°	1533	1534	1529	1522	1533	1531	1532	1532	1527	1532	1531
10°	1519	1522	1516	1508	1519	1516	1519	1519	1516	1520	1520
12.5°	1505	1508	1505	1495	1504	1500	1503	1504	1500	1504	1505
15°	1488	1490	1488	1480	1486	1483	1486	1486	1485	1488	1489
17.5°	1470	1471	1467	1459	1465	1460	1465	1465	1463	1468	1468
20°	1449	1447	1443	1435	1440	1438	1444	1443	1442	1445	1445
22.5°	1421	1422	1416	1408	1414	1414	1420	1417	1416	1421	1420
25°	1392	1391	1386	1378	1387	1386	1393	1390	1390	1393	1395
27.5°	1359	1358	1352	1349	1356	1355	1364	1360	1360	1366	1369
30°	1326	1325	1320	1318	1326	1327	1334	1331	1331	1336	1338
32.5°	1293	1293	1289	1288	1296	1296	1304	1302	1304	1309	1311
35°	1255	1258	1253	1253	1256	1259	1265	1262	1266	1272	1276
37.5°	1214	1219	1217	1212	1211	1207	1219	1220	1230	1237	1242
40°	1072	1066	1069	1073	1075	1060	1076	1061	1047	1050	1057
42.5°	861	860	866	876	881	878	875	867	869	863	848
45°	757	760	731	712	716	728	726	722	724	737	750
47.5°	673	677	649	633	648	670	664	647	646	634	634
50°	740	735	681	662	682	700	701	685	682	684	686
52.5°	807	804	750	727	742	763	765	750	748	758	763
55°	787	782	738	723	737	753	762	755	749	753	758
57.5°	735	733	698	685	701	724	736	722	715	722	729
60°	685	682	643	639	654	671	688	671	661	667	678
62.5°	631	625	593	591	601	612	625	612	600	606	607
65°	560	555	528	531	538	540	550	547	543	550	552
67.5°	507	497	473	471	481	483	494	484	483	489	490
70°	449	440	418	420	423	422	429	425	425	434	438
72.5°	372	367	350	358	360	363	372	365	368	377	382
75°	290	283	275	280	289	293	302	300	300	307	313
77.5°	190	190	191	198	210	214	226	222	220	221	224
80°	120	120	120	126	128	136	138	137	139	138	146
82.5°	72	72	73	75	76	77	81	81	82	83	85
85°	50	50	51	52	53	52	55	54	56	56	56
87.5°	35	36	36	36	36	37	37	37	37	37	36
90°	25	25	25	25	25	25	25	25	25	24	24
92.5°	20	20	20	20	20	20	20	19	19	18	18
95°	16	17	16	17	17	16	16	15	15	15	15
97.5°	14	14	14	14	14	14	14	13	13	12	12
100°	13	13	13	13	13	12	12	11	10	10	10
102.5°	11	12	11	12	11	11	11	9	8	8	8
105°	11	11	10	11	10	10	10	9	8	8	8
107.5°	10	10	10	10	10	10	9	8	7	7	7



REPORT NUMBER: P407859
 CATALOG NUMBER: ALS4A40-DL

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	8	8	8	8	8	8	7	6	5	6	6
112.5°	7	7	7	7	7	7	6	5	4	4	4
115°	6	6	6	7	6	6	6	5	4	3	3
117.5°	6	6	6	6	6	6	5	5	4	3	3
120°	6	6	6	6	6	6	6	5	4	3	3
122.5°	6	6	6	6	6	6	5	5	4	3	3
125°	6	6	5	6	6	6	5	4	4	3	3
127.5°	7	7	6	6	7	6	5	5	4	3	3
130°	7	7	6	6	7	6	5	5	4	2	2
132.5°	9	8	7	7	8	7	6	5	4	3	3
135°	9	9	7	9	9	8	7	6	5	3	3
137.5°	11	11	9	9	10	9	9	8	6	3	3
140°	12	12	10	11	11	10	11	9	6	3	3
142.5°	12	12	11	11	11	12	12	10	7	3	3
145°	12	12	11	12	12	12	13	11	7	3	3
147.5°	11	11	11	11	11	12	13	12	7	3	3
150°	9	10	10	11	11	11	11	11	6	3	2
152.5°	8	8	9	9	10	10	10	9	5	3	2
155°	6	7	7	8	8	8	8	7	4	2	2
157.5°	5	5	5	6	6	6	6	5	3	2	2
160°	3	3	4	4	4	4	3	3	2	1	1
162.5°	2	2	2	2	2	2	2	2	1	1	1
165°	1	1	1	1	1	1	1	1	1	1	1
167.5°	1	1	1	1	1	1	1	1	1	1	1
170°	1	1	1	1	1	1	1	1	1	1	1
172.5°	1	1	1	1	1	1	1	1	1	1	1
175°	1	1	1	1	1	1	1	1	1	1	1
177.5°	1	1	1	1	1	1	1	1	1	1	1
180°	1	1	1	1	1	1	1	1	1	1	1

(END OF REPORT)