

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: P242002

Luminaire Tested: **PRS440D010-S4M24-41SWWC**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P242002
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1802-584-61)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: PRS440D010-S4M24-41SWWC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, WITH 4" WALL WASH DISTRIBUTION, WW TRIM SPECULAR
Light Source: ARRAYS OF HIGH LUMEN LEDS 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2359.3 lumens
Efficiency: N/A
Efficacy: 62.1 lumens/watt
Spacing Criteria (0/90/45): 0.94 / 0.9 / 0.99
Luminous Opening: Rectangular (W 0.38' x L: 0.38' x H: 0')
CIE Type: Direct

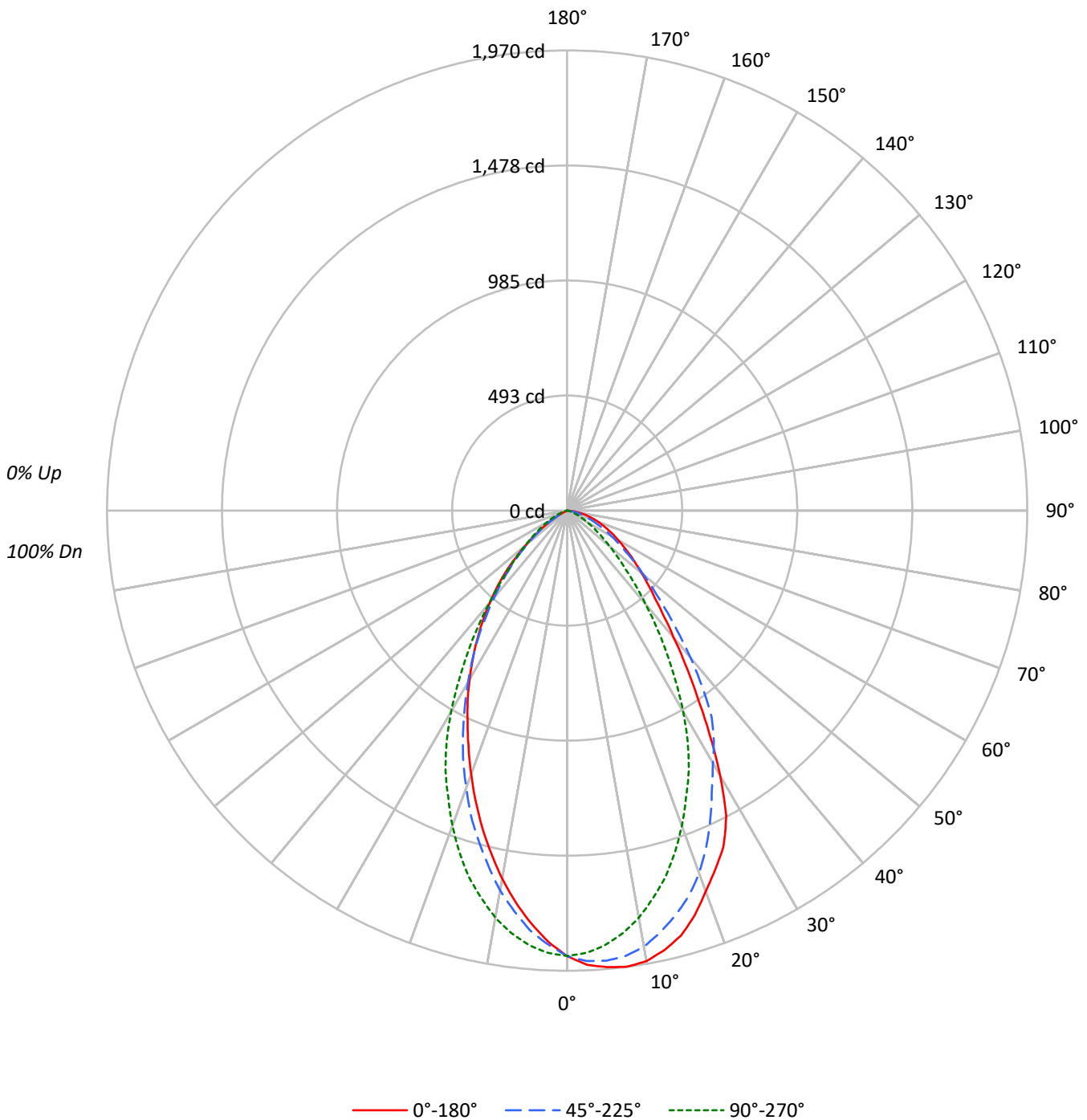
Input Watts (W): 38
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P242002

CATALOG NUMBER: PRS440D010-S4M24-41SWWC

Luminous Intensity Polar Plot





TEST NUMBER: P242002

CATALOG NUMBER: PRS440D010-S4M24-41SWWC

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	112	109	106	103	110	107	104	101	102	100	98	99	97	95	95	94	92	91					91			
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	85	83	81					81			
3	98	90	84	79	96	89	83	79	86	81	77	83	79	76	81	78	75	73					73			
4	92	83	76	71	90	81	75	70	79	74	69	77	72	69	75	71	68	66					66			
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	70	65	62	60					60			
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	56	55					55			
7	76	65	58	53	74	64	58	53	63	57	52	62	56	52	60	55	52	50					50			
8	72	60	53	49	70	60	53	48	59	53	48	58	52	48	56	51	48	46					46			
9	68	56	50	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43					43			
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40					40			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	145961	145961	145961
5°	150736	143499	136268
10°	152176	137541	124421
15°	149239	128723	111313
20°	141261	116971	97796
25°	133872	104050	85166
30°	115828	87739	73863
35°	90555	69297	62690
40°	70963	52138	51359
45°	57762	38223	40344
50°	49526	28032	28032
55°	43464	20938	16761
60°	38440	15018	7807
65°	34829	10668	1413
70°	31623	7027	0
75°	27859	4643	0
80°	22481	1719	0
85°	13788	0	0



TEST NUMBER: P242002

CATALOG NUMBER: PRS440D010-S4M24-41SWWC

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.4	7.4
10°-20°	455.8	19.3
20°-30°	575.3	24.4
30°-40°	510.0	21.6
40°-50°	338.4	14.3
50°-60°	184.2	7.8
60°-70°	82.7	3.5
70°-80°	32.1	1.4
80°-90°	5.4	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°	1206.5	51.1
0°-40°	1716.5	72.8
0°-60°	2239.1	94.9
0°-90°	2359.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2359.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1907	1907	1907	1907	1907	
5°	1962	1934	1868	1805	1774	187
15°	1883	1793	1624	1464	1405	526
25°	1585	1452	1232	1056	1008	717
35°	969	1079	742	663	671	612
45°	534	592	353	341	373	419
55°	326	306	157	122	126	293
65°	192	149	59	4	8	192
75°	94	59	16	0	0	101
85°	16	8	0	0	0	21
90°	0	0	0	0	0	



TEST NUMBER: P242002

CATALOG NUMBER: PRS440D010-S4M24-41SWWC

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9
2.5°	1946.1	1942.2	1942.2	1942.2	1938.3	1938.3	1938.3	1938.3	1934.4	1930.4	1930.4
5°	1961.8	1965.7	1961.8	1957.9	1957.9	1957.9	1954.0	1950.0	1946.1	1942.2	1934.4
7.5°	1969.7	1965.7	1965.7	1961.8	1957.9	1954.0	1950.0	1946.1	1938.3	1930.4	1922.6
10°	1957.9	1954.0	1950.0	1950.0	1938.3	1938.3	1934.4	1926.5	1914.7	1906.9	1895.1
12.5°	1926.5	1926.5	1922.6	1918.7	1906.9	1906.9	1899.0	1891.2	1879.4	1863.7	1848.0
15°	1883.3	1883.3	1875.5	1871.6	1863.7	1859.8	1852.0	1840.2	1828.4	1812.7	1793.1
17.5°	1816.6	1816.6	1812.7	1804.9	1800.9	1797.0	1785.3	1777.4	1761.7	1746.0	1730.3
20°	1734.2	1726.4	1726.4	1722.5	1714.6	1710.7	1706.8	1695.0	1683.2	1667.5	1651.8
22.5°	1659.7	1655.8	1644.0	1636.2	1624.4	1616.5	1612.6	1596.9	1589.1	1577.3	1557.7
25°	1585.1	1577.3	1573.4	1561.6	1545.9	1542.0	1530.2	1506.7	1491.0	1471.4	1451.7
27.5°	1475.3	1475.3	1479.2	1475.3	1459.6	1455.7	1447.8	1428.2	1396.8	1365.4	1341.9
30°	1310.5	1306.6	1310.5	1318.3	1330.1	1334.0	1341.9	1338.0	1314.4	1279.1	1247.7
32.5°	1133.9	1133.9	1149.6	1161.4	1173.2	1177.1	1184.9	1204.6	1204.6	1192.8	1169.2
35°	969.1	977.0	988.8	1000.5	1016.2	1020.1	1039.8	1043.7	1067.2	1082.9	1079.0
37.5°	831.8	839.7	843.6	855.4	871.0	875.0	882.8	910.3	937.7	957.4	949.5
40°	710.2	710.2	721.9	733.7	749.4	753.3	765.1	780.8	812.2	820.0	820.0
42.5°	612.1	616.0	619.9	627.8	639.6	647.4	655.2	678.8	694.5	706.3	698.4
45°	533.6	537.5	541.5	549.3	557.2	561.1	568.9	584.6	596.4	596.4	592.5
47.5°	470.8	470.8	474.8	478.7	486.5	490.5	498.3	506.1	510.1	506.1	502.2
50°	415.9	419.8	419.8	423.8	427.7	435.5	439.4	439.4	439.4	435.5	427.7
52.5°	368.8	368.8	372.7	372.7	380.6	384.5	384.5	384.5	380.6	372.7	361.0
55°	325.7	325.7	325.7	329.6	337.4	337.4	337.4	333.5	329.6	317.8	306.0
57.5°	286.4	290.3	290.3	290.3	294.3	294.3	294.3	290.3	282.5	270.7	259.0
60°	251.1	255.0	255.0	255.0	259.0	259.0	255.0	251.1	243.3	227.6	219.7
62.5°	223.6	223.6	223.6	223.6	223.6	223.6	219.7	211.9	204.0	192.3	184.4
65°	192.3	192.3	192.3	196.2	192.3	188.3	188.3	180.5	172.6	160.9	149.1
67.5°	164.8	164.8	164.8	164.8	160.9	160.9	156.9	149.1	141.3	133.4	121.6
70°	141.3	141.3	141.3	137.3	133.4	133.4	129.5	121.6	113.8	105.9	98.1
72.5°	117.7	117.7	117.7	113.8	109.9	105.9	105.9	98.1	90.2	82.4	78.5
75°	94.2	94.2	94.2	90.2	86.3	82.4	82.4	74.5	70.6	66.7	58.9
77.5°	74.5	74.5	70.6	66.7	66.7	62.8	62.8	58.9	54.9	47.1	43.2
80°	51.0	51.0	51.0	51.0	47.1	43.2	43.2	39.2	35.3	31.4	27.5
82.5°	35.3	35.3	31.4	31.4	27.5	27.5	27.5	23.5	23.5	19.6	15.7
85°	15.7	15.7	15.7	15.7	11.8	11.8	11.8	11.8	11.8	7.8	7.8
87.5°	0.0	0.0	0.0	0.0	3.9	0.0	0.0	0.0	3.9	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242002

CATALOG NUMBER: PRS440D010-S4M24-41SWWC

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9
2.5°	1926.5	1922.6	1922.6	1914.7	1914.7	1910.8	1906.9	1903.0	1899.0	1895.1	1891.2
5°	1930.4	1922.6	1914.7	1906.9	1906.9	1899.0	1891.2	1883.3	1879.4	1867.6	1859.8
7.5°	1914.7	1903.0	1895.1	1883.3	1879.4	1871.6	1859.8	1848.0	1836.3	1824.5	1812.7
10°	1883.3	1867.6	1855.9	1844.1	1832.3	1828.4	1812.7	1800.9	1781.3	1769.6	1757.8
12.5°	1836.3	1820.6	1804.9	1785.3	1781.3	1773.5	1753.9	1734.2	1718.6	1698.9	1683.2
15°	1777.4	1761.7	1738.2	1722.5	1710.7	1698.9	1683.2	1663.6	1640.1	1624.4	1604.8
17.5°	1710.7	1687.2	1663.6	1644.0	1628.3	1620.5	1593.0	1569.5	1553.8	1534.1	1514.5
20°	1632.2	1604.8	1577.3	1549.8	1538.1	1522.4	1498.8	1475.3	1451.7	1436.0	1408.6
22.5°	1538.1	1510.6	1483.1	1451.7	1443.9	1428.2	1400.7	1377.2	1357.6	1330.1	1306.6
25°	1432.1	1408.6	1389.0	1361.5	1345.8	1330.1	1306.6	1279.1	1251.6	1232.0	1204.6
27.5°	1326.2	1310.5	1290.9	1263.4	1247.7	1232.0	1200.6	1173.2	1137.9	1118.2	1086.8
30°	1224.2	1212.4	1184.9	1157.5	1130.0	1118.2	1075.1	1043.7	1012.3	992.7	969.1
32.5°	1133.9	1098.6	1063.3	1024.1	1008.4	992.7	949.5	918.1	890.7	863.2	839.7
35°	1031.9	977.0	937.7	902.4	882.8	867.1	831.8	796.5	773.0	741.6	725.9
37.5°	922.1	875.0	827.9	784.7	769.0	745.5	718.0	678.8	655.2	627.8	604.2
40°	804.3	773.0	721.9	678.8	659.2	643.5	608.2	576.8	545.4	521.8	506.1
42.5°	682.7	663.1	623.9	580.7	561.1	545.4	514.0	478.7	451.2	431.6	412.0
45°	580.7	565.0	533.6	494.4	470.8	455.1	423.8	392.4	368.8	353.1	341.4
47.5°	490.5	474.8	447.3	412.0	392.4	376.7	345.3	317.8	302.1	290.3	282.5
50°	412.0	392.4	368.8	345.3	325.7	310.0	282.5	262.9	247.2	235.4	231.5
52.5°	345.3	329.6	306.0	282.5	266.8	255.0	227.6	211.9	204.0	192.3	184.4
55°	290.3	274.7	255.0	231.5	219.7	208.0	188.3	176.6	164.8	156.9	149.1
57.5°	243.3	227.6	208.0	188.3	176.6	168.7	153.0	141.3	133.4	125.6	117.7
60°	204.0	188.3	172.6	153.0	145.2	137.3	125.6	113.8	105.9	98.1	90.2
62.5°	168.7	153.0	137.3	121.6	117.7	109.9	102.0	90.2	82.4	78.5	70.6
65°	141.3	125.6	109.9	98.1	94.2	86.3	78.5	70.6	62.8	58.9	54.9
67.5°	113.8	98.1	86.3	78.5	74.5	70.6	62.8	54.9	51.0	43.2	39.2
70°	90.2	78.5	66.7	58.9	54.9	51.0	47.1	43.2	35.3	31.4	27.5
72.5°	66.7	58.9	51.0	43.2	43.2	39.2	35.3	31.4	27.5	23.5	19.6
75°	51.0	43.2	39.2	31.4	31.4	27.5	23.5	19.6	15.7	15.7	11.8
77.5°	35.3	31.4	27.5	23.5	19.6	19.6	15.7	11.8	11.8	7.8	7.8
80°	23.5	19.6	15.7	11.8	11.8	11.8	7.8	7.8	7.8	3.9	3.9
82.5°	15.7	11.8	7.8	7.8	7.8	3.9	3.9	3.9	3.9	3.9	0.0
85°	3.9	3.9	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242002

CATALOG NUMBER: PRS440D010-S4M24-41SWWC

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9
2.5°	1887.3	1883.3	1879.4	1875.5	1875.5	1867.6	1867.6	1863.7	1859.8	1859.8	1855.9
5°	1852.0	1844.1	1836.3	1832.3	1832.3	1820.6	1812.7	1808.8	1804.9	1800.9	1793.1
7.5°	1800.9	1793.1	1781.3	1773.5	1769.6	1757.8	1749.9	1738.2	1730.3	1726.4	1714.6
10°	1742.1	1730.3	1710.7	1706.8	1698.9	1687.2	1675.4	1663.6	1651.8	1640.1	1632.2
12.5°	1667.5	1647.9	1636.2	1624.4	1616.5	1604.8	1585.1	1569.5	1557.7	1549.8	1538.1
15°	1585.1	1565.5	1549.8	1538.1	1530.2	1514.5	1491.0	1479.2	1463.5	1447.8	1443.9
17.5°	1491.0	1467.4	1451.7	1440.0	1428.2	1416.4	1392.9	1381.1	1369.3	1353.7	1341.9
20°	1389.0	1365.4	1349.7	1334.0	1322.3	1310.5	1294.8	1275.2	1263.4	1255.6	1239.9
22.5°	1283.0	1263.4	1239.9	1232.0	1224.2	1196.7	1184.9	1169.2	1161.4	1149.6	1141.8
25°	1181.0	1153.5	1137.9	1126.1	1114.3	1094.7	1075.1	1063.3	1055.5	1047.6	1035.8
27.5°	1067.2	1051.5	1031.9	1016.2	1012.3	992.7	973.1	961.3	949.5	941.7	929.9
30°	945.6	926.0	910.3	910.3	902.4	886.7	878.9	863.2	847.5	843.6	839.7
32.5°	820.0	808.3	796.5	788.6	788.6	776.9	765.1	761.2	753.3	745.5	745.5
35°	706.3	694.5	682.7	678.8	678.8	670.9	667.0	663.1	663.1	659.2	655.2
37.5°	596.4	580.7	568.9	568.9	568.9	568.9	568.9	568.9	568.9	576.8	572.9
40°	494.4	486.5	482.6	478.7	478.7	478.7	482.6	482.6	486.5	494.4	498.3
42.5°	404.1	404.1	400.2	400.2	396.3	400.2	404.1	408.1	412.0	412.0	419.8
45°	337.4	333.5	329.6	329.6	333.5	329.6	333.5	341.4	341.4	345.3	349.2
47.5°	274.7	270.7	270.7	270.7	270.7	270.7	270.7	274.7	278.6	278.6	282.5
50°	223.6	219.7	215.8	219.7	215.8	215.8	219.7	219.7	219.7	223.6	223.6
52.5°	176.6	172.6	168.7	168.7	168.7	168.7	168.7	168.7	168.7	168.7	168.7
55°	137.3	133.4	129.5	129.5	125.6	125.6	121.6	121.6	121.6	121.6	121.6
57.5°	109.9	102.0	98.1	94.2	94.2	86.3	82.4	82.4	78.5	78.5	78.5
60°	82.4	78.5	70.6	70.6	66.7	58.9	54.9	47.1	47.1	43.2	43.2
62.5°	62.8	58.9	54.9	51.0	47.1	39.2	31.4	23.5	15.7	15.7	19.6
65°	47.1	43.2	35.3	31.4	31.4	23.5	15.7	7.8	3.9	3.9	7.8
67.5°	35.3	31.4	23.5	19.6	15.7	11.8	3.9	0.0	0.0	0.0	0.0
70°	23.5	19.6	11.8	11.8	7.8	3.9	0.0	0.0	0.0	0.0	0.0
72.5°	15.7	11.8	7.8	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	7.8	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242002

CATALOG NUMBER: PRS440D010-S4M24-41SWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9	1906.9
2.5°	1852.0	1852.0	1852.0	1852.0	1848.0	1848.0	1848.0	1848.0
5°	1793.1	1781.3	1781.3	1781.3	1781.3	1781.3	1777.4	1773.5
7.5°	1710.7	1702.9	1702.9	1698.9	1698.9	1695.0	1695.0	1691.1
10°	1624.4	1616.5	1616.5	1608.7	1608.7	1604.8	1600.8	1600.8
12.5°	1526.3	1518.4	1518.4	1518.4	1510.6	1510.6	1502.8	1502.8
15°	1428.2	1420.4	1416.4	1416.4	1408.6	1408.6	1404.7	1404.7
17.5°	1326.2	1322.3	1314.4	1314.4	1310.5	1302.6	1302.6	1302.6
20°	1232.0	1220.2	1216.3	1216.3	1204.6	1204.6	1200.6	1200.6
22.5°	1130.0	1122.2	1118.2	1114.3	1106.5	1110.4	1102.5	1102.5
25°	1028.0	1028.0	1020.1	1020.1	1016.2	1012.3	1008.4	1008.4
27.5°	929.9	929.9	926.0	926.0	922.1	918.1	918.1	922.1
30°	835.7	835.7	835.7	839.7	835.7	831.8	835.7	835.7
32.5°	745.5	745.5	749.4	745.5	749.4	749.4	749.4	749.4
35°	659.2	659.2	663.1	663.1	667.0	667.0	670.9	670.9
37.5°	572.9	580.7	580.7	580.7	588.5	588.5	592.5	592.5
40°	498.3	498.3	502.2	506.1	510.1	514.0	517.9	514.0
42.5°	423.8	423.8	427.7	431.6	435.5	439.4	443.4	443.4
45°	349.2	353.1	357.1	357.1	364.9	368.8	368.8	372.7
47.5°	282.5	290.3	290.3	290.3	294.3	298.2	302.1	298.2
50°	223.6	227.6	227.6	227.6	231.5	235.4	235.4	235.4
52.5°	168.7	172.6	172.6	172.6	176.6	176.6	176.6	180.5
55°	121.6	121.6	121.6	125.6	125.6	125.6	125.6	125.6
57.5°	78.5	78.5	78.5	82.4	86.3	86.3	82.4	82.4
60°	43.2	47.1	51.0	51.0	51.0	54.9	51.0	51.0
62.5°	23.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
65°	7.8	11.8	11.8	11.8	11.8	11.8	7.8	7.8
67.5°	3.9	3.9	3.9	3.9	3.9	0.0	3.9	3.9
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)