

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P776376

Luminaire Tested: HCDJBL3040CSD-HCD62TRMB-4000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776376
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B058)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD62TRMB-4000lm-3000K
Description: 6 INCH ROUND NARROW MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

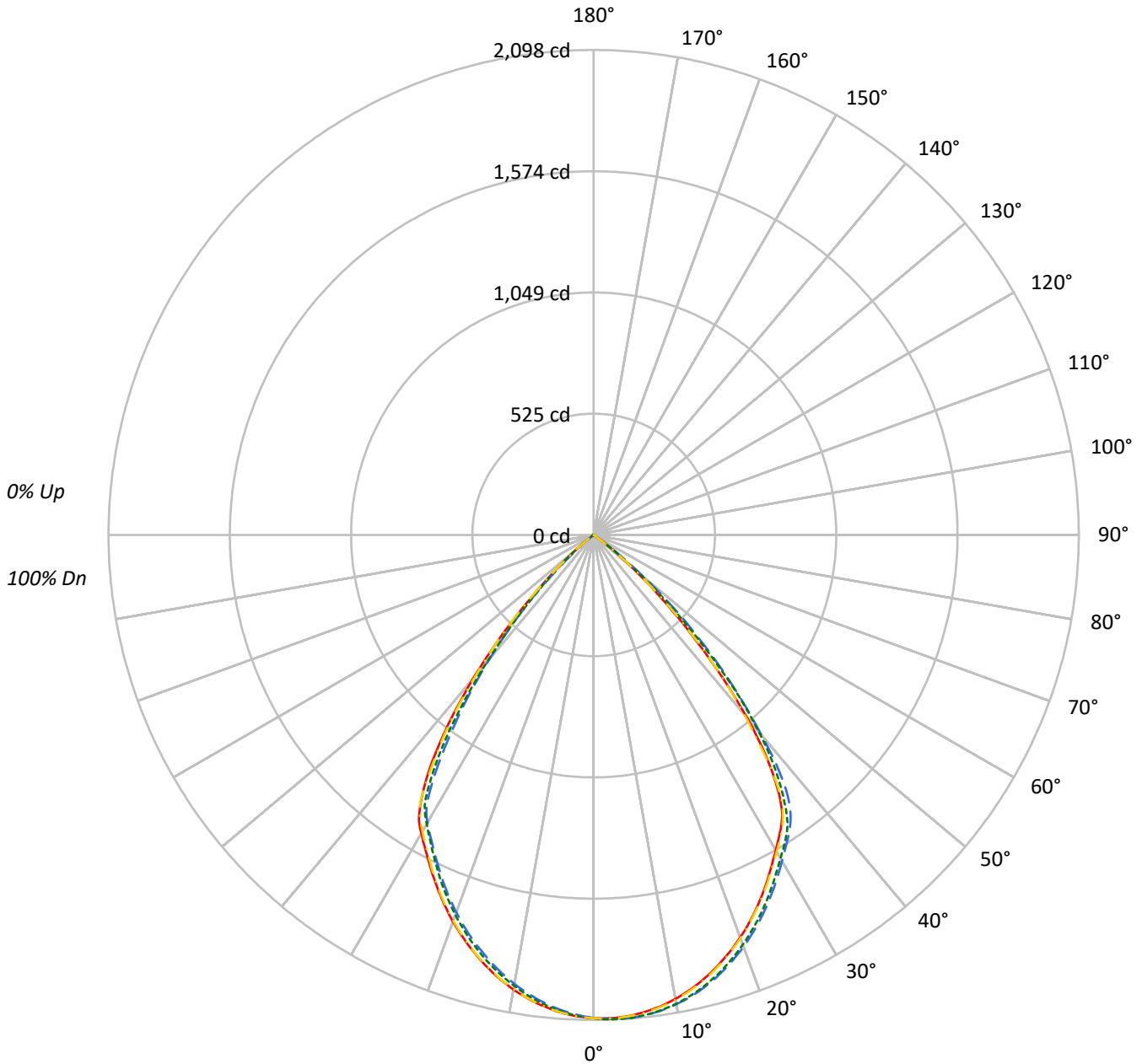
Lumens per Lamp: N/A
Luminaire Lumens: 2730.5 lumens
Efficiency: N/A
Efficacy: 70.9 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.11 / 1.11
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
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: NR
Ambient Temperature (°C): NR
Test Distance: 24 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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	113	110	107	105	111	108	105	103	104	102	100	100	98	97	97	95	94	92	92	92	92
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85	85	85	85
3	101	94	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77	77	77	77
4	95	86	80	76	93	85	80	75	83	78	74	81	77	73	79	75	72	71	71	71	71
5	89	80	73	69	87	79	73	68	77	72	68	75	71	67	74	70	66	65	65	65	65
6	84	74	67	63	82	73	67	62	72	66	62	70	65	62	69	64	61	60	60	60	60
7	79	69	62	57	78	68	62	57	67	61	57	65	60	57	64	60	56	55	55	55	55
8	75	64	57	53	73	63	57	53	62	57	52	61	56	52	60	56	52	51	51	51	51
9	70	60	53	49	69	59	53	49	58	53	49	57	52	48	56	52	48	47	47	47	47
10	67	56	50	45	66	55	49	45	55	49	45	54	49	45	53	48	45	44	44	44	44

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	114623	114623	114623	114623
5°	114610	115210	113443	113036
10°	113447	114627	111159	110285
15°	111244	112867	107884	106573
20°	108089	110050	103837	102075
25°	104105	106361	99012	96665
30°	99724	102282	94394	91419
35°	94368	96992	82837	78220
40°	73831	79470	57966	51382
45°	43423	50137	29274	25693
50°	17108	20682	8554	8588
55°	2504	3259	707	860
60°	559	603	515	428
65°	402	402	350	311
70°	321	321	256	256
75°	254	254	169	169
80°	126	126	126	126
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 55448 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.1	7.2
10°-20°	543.0	19.9
20°-30°	772.0	28.3
30°-40°	797.3	29.2
40°-50°	381.0	14.0
50°-60°	36.8	1.3
60°-70°	3.0	0.1
70°-80°	1.1	0.0
80°-90°	0.2	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°	1511.2	55.3
0°-40°	2308.4	84.5
0°-60°	2726.2	99.8
0°-90°	2730.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2730.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2091	2091	2091	2091	2091	
5°	2083	2094	2062	2054	2083	197
15°	1960	1989	1901	1878	1960	551
25°	1721	1758	1637	1598	1721	791
35°	1410	1449	1238	1169	1410	854
45°	560	647	378	331	560	439
55°	26	34	7	9	26	47
65°	3	3	3	2	3	3
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2090.9	2090.9	2090.9	2090.9	2090.9	2090.9	2090.9	2090.9	2090.9	2090.9	2090.9
0.5°	2091.3	2091.3	2091.7	2090.9	2094.0	2093.3	2092.1	2091.7	2089.3	2088.2	2086.6
1°	2092.1	2092.5	2093.3	2092.9	2095.6	2094.0	2092.9	2091.3	2087.8	2085.8	2084.2
1.5°	2092.1	2093.3	2094.4	2094.4	2096.4	2094.8	2093.3	2090.5	2085.4	2083.1	2080.7
2°	2092.1	2094.0	2095.6	2096.0	2097.6	2095.6	2092.9	2088.9	2083.5	2079.9	2077.2
2.5°	2091.3	2094.0	2096.4	2096.8	2097.6	2095.6	2092.5	2087.0	2080.7	2076.8	2073.3
3°	2090.1	2094.0	2096.4	2097.2	2097.6	2095.2	2091.3	2085.4	2077.6	2072.9	2069.0
3.5°	2088.9	2093.3	2096.4	2097.6	2097.2	2094.4	2090.1	2083.1	2074.5	2069.0	2064.3
4°	2087.4	2092.1	2095.6	2097.2	2096.4	2093.6	2088.6	2079.9	2070.5	2064.3	2059.2
4.5°	2085.4	2090.5	2094.8	2096.8	2095.6	2092.1	2086.6	2076.8	2066.6	2059.2	2054.1
5°	2082.7	2088.6	2093.6	2095.6	2093.6	2090.1	2084.2	2073.3	2061.5	2054.1	2048.6
5.5°	2079.9	2087.0	2092.5	2094.4	2091.7	2088.2	2081.5	2069.8	2056.4	2048.2	2042.3
6°	2076.8	2084.6	2090.5	2092.5	2089.7	2085.8	2078.4	2066.2	2051.3	2042.7	2035.7
6.5°	2072.9	2081.9	2088.2	2090.9	2087.0	2082.7	2075.2	2061.5	2045.9	2036.5	2028.6
7°	2069.0	2078.4	2085.4	2088.6	2084.2	2079.5	2071.3	2056.8	2040.0	2029.4	2021.6
7.5°	2064.7	2074.8	2082.3	2085.8	2080.7	2076.0	2067.4	2051.7	2033.7	2022.4	2014.1
8°	2060.4	2070.9	2079.2	2083.1	2077.6	2072.1	2062.7	2046.3	2026.7	2015.3	2006.7
8.5°	2055.3	2066.6	2075.2	2079.2	2073.3	2067.8	2058.0	2040.4	2019.6	2007.5	1998.5
9°	2049.8	2062.3	2071.3	2075.6	2069.0	2063.5	2052.5	2033.7	2013.0	1999.6	1990.2
9.5°	2044.3	2057.2	2067.0	2071.3	2064.3	2058.0	2047.0	2027.5	2005.1	1991.4	1981.2
10°	2038.0	2051.7	2061.9	2066.6	2059.2	2052.9	2041.2	2020.0	1996.9	1982.8	1972.6
10.5°	2031.8	2045.9	2056.8	2061.9	2053.7	2047.4	2034.9	2013.0	1988.7	1973.4	1963.2
11°	2025.1	2040.0	2051.7	2056.4	2047.8	2041.2	2028.2	2005.5	1980.1	1964.4	1953.4
11.5°	2018.4	2033.7	2045.5	2051.0	2041.6	2034.5	2021.6	1997.7	1971.4	1955.0	1943.2
12°	2011.0	2026.7	2039.6	2045.1	2034.9	2028.2	2014.1	1989.5	1962.0	1945.6	1933.4
12.5°	2002.8	2019.6	2032.9	2038.8	2028.2	2021.2	2006.3	1980.8	1952.6	1935.4	1922.5
13°	1994.9	2012.2	2025.9	2032.2	2020.8	2014.1	1998.5	1972.2	1942.8	1924.8	1912.3
13.5°	1986.7	2004.7	2018.4	2025.5	2013.4	2005.9	1990.6	1962.4	1932.3	1914.6	1901.3
14°	1978.1	1996.9	2011.0	2017.7	2005.5	1998.1	1981.6	1953.4	1922.1	1903.7	1890.0
14.5°	1969.1	1988.7	2002.8	2010.2	1996.9	1989.1	1972.6	1943.6	1911.5	1892.7	1878.2
15°	1960.1	1980.1	1994.9	2002.0	1988.7	1980.1	1963.6	1933.1	1900.9	1881.3	1866.5
15.5°	1950.7	1970.7	1986.7	1993.4	1980.1	1970.7	1953.8	1922.9	1890.0	1869.6	1855.1
16°	1940.5	1961.3	1977.3	1984.8	1970.7	1961.3	1944.0	1912.3	1878.2	1857.8	1843.0
16.5°	1930.3	1951.9	1967.9	1975.7	1961.3	1951.9	1934.2	1901.3	1866.9	1845.3	1830.8
17°	1920.1	1942.1	1958.1	1966.7	1951.1	1942.1	1923.7	1890.4	1855.1	1833.6	1817.9
17.5°	1909.5	1931.9	1948.7	1956.9	1940.9	1931.5	1913.1	1879.4	1843.0	1821.4	1805.0
18°	1899.0	1921.3	1938.5	1946.8	1930.3	1920.9	1902.1	1867.6	1830.8	1808.5	1791.6
18.5°	1888.0	1910.3	1928.0	1936.6	1919.7	1909.5	1890.4	1855.9	1818.3	1795.6	1778.7
19°	1875.9	1899.8	1917.8	1926.4	1908.8	1899.0	1879.4	1843.7	1805.7	1782.2	1765.4
19.5°	1864.5	1888.8	1906.8	1915.4	1897.8	1887.2	1868.0	1831.6	1792.8	1769.3	1751.3
20°	1852.8	1877.4	1895.8	1904.5	1886.4	1875.9	1856.3	1818.7	1779.9	1755.6	1737.2
20.5°	1840.6	1865.7	1884.5	1893.1	1874.7	1863.7	1844.1	1806.5	1766.2	1741.5	1723.1
21°	1828.9	1853.9	1872.7	1881.7	1862.2	1852.0	1831.6	1793.2	1752.5	1727.8	1708.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	1790.1	1816.7	1836.3	1844.9	1824.9	1814.4	1793.2	1753.3	1710.6	1684.3	1664.7
23°	1776.8	1803.0	1823.8	1832.8	1812.0	1801.4	1779.9	1739.6	1695.7	1669.4	1649.1
23.5°	1763.1	1790.1	1810.8	1819.5	1798.7	1788.1	1766.6	1725.4	1681.2	1654.6	1633.8
24°	1749.0	1776.4	1797.9	1807.3	1785.4	1774.8	1752.9	1711.3	1666.3	1639.7	1618.1
24.5°	1735.2	1763.4	1784.6	1794.0	1771.7	1761.1	1739.2	1697.2	1651.8	1624.0	1602.8
25°	1721.1	1749.3	1771.3	1780.3	1758.4	1747.4	1725.1	1682.8	1636.9	1609.1	1586.8
25.5°	1706.6	1735.2	1757.2	1766.6	1744.3	1733.3	1711.0	1668.3	1621.6	1593.4	1571.1
26°	1692.5	1721.9	1743.5	1752.9	1730.5	1719.2	1696.9	1653.4	1606.8	1578.2	1555.5
26.5°	1677.7	1707.8	1729.4	1739.2	1716.4	1704.7	1682.4	1638.9	1591.9	1562.5	1540.6
27°	1663.2	1693.7	1715.3	1725.1	1702.3	1690.6	1667.9	1624.0	1576.2	1547.6	1524.9
27.5°	1648.3	1678.8	1701.2	1710.6	1687.8	1676.1	1653.4	1608.7	1561.7	1532.7	1510.0
28°	1633.8	1664.3	1686.7	1696.5	1673.0	1662.0	1638.5	1594.2	1547.2	1518.6	1495.1
28.5°	1618.5	1649.9	1672.6	1681.6	1658.1	1647.1	1624.0	1580.1	1533.5	1504.1	1481.4
29°	1603.6	1635.4	1658.1	1667.5	1644.0	1632.6	1609.9	1565.6	1519.4	1489.6	1466.5
29.5°	1589.5	1620.9	1643.6	1653.4	1629.9	1618.5	1596.2	1551.9	1504.9	1475.2	1452.0
30°	1575.4	1606.8	1629.5	1638.9	1615.8	1604.8	1582.1	1537.8	1491.2	1461.0	1437.5
30.5°	1561.3	1592.7	1615.4	1624.8	1602.1	1590.7	1568.8	1524.5	1477.1	1446.2	1421.5
31°	1547.6	1579.3	1602.1	1611.1	1589.1	1577.4	1555.1	1510.8	1462.2	1430.5	1405.0
31.5°	1533.5	1565.6	1588.4	1597.8	1575.4	1564.1	1541.7	1496.7	1446.6	1411.3	1383.9
32°	1519.8	1551.9	1574.6	1584.0	1562.1	1550.7	1528.0	1481.8	1423.8	1385.5	1355.3
32.5°	1506.1	1538.2	1561.7	1571.1	1548.4	1537.4	1513.9	1465.8	1398.4	1355.3	1322.4
33°	1491.6	1524.5	1548.0	1557.0	1534.3	1522.2	1498.7	1446.6	1369.8	1320.8	1284.8
33.5°	1475.9	1510.4	1534.3	1544.1	1518.2	1506.9	1482.2	1423.1	1339.2	1284.0	1246.0
34°	1459.1	1494.7	1519.0	1529.2	1499.4	1488.9	1463.8	1396.8	1307.9	1244.8	1204.5
34.5°	1436.4	1477.9	1503.4	1513.1	1475.5	1467.7	1443.4	1367.0	1273.8	1206.4	1163.4
35°	1410.1	1457.9	1484.9	1493.2	1449.3	1442.6	1419.9	1336.1	1237.8	1167.7	1121.1
35.5°	1381.5	1435.6	1465.0	1469.7	1421.1	1415.2	1393.3	1302.8	1200.2	1128.5	1080.7
36°	1349.8	1408.6	1440.7	1443.0	1392.9	1385.5	1362.3	1267.5	1159.0	1090.5	1037.6
36.5°	1318.1	1379.6	1414.4	1414.4	1362.7	1352.9	1325.9	1229.6	1117.1	1052.5	996.5
37°	1283.2	1345.9	1383.9	1384.3	1332.2	1318.9	1284.4	1190.4	1073.7	1011.4	955.0
37.5°	1246.4	1309.9	1349.8	1353.7	1299.3	1282.0	1239.7	1147.7	1031.7	970.6	913.8
38°	1206.8	1269.1	1309.9	1321.2	1266.0	1244.0	1191.6	1103.0	987.9	927.2	871.1
38.5°	1165.3	1226.4	1268.7	1286.7	1228.8	1204.1	1145.3	1055.6	944.0	884.1	828.1
39°	1121.8	1179.8	1223.7	1250.7	1191.2	1161.4	1099.1	1009.4	899.3	839.0	785.8
39.5°	1077.6	1134.0	1176.3	1211.9	1151.2	1117.9	1055.6	960.1	855.9	795.2	743.8
40°	1031.7	1086.2	1129.7	1172.4	1110.5	1071.3	1011.8	911.1	810.0	750.9	701.1
40.5°	985.1	1036.8	1083.4	1131.2	1067.8	1025.1	969.9	862.5	765.4	709.4	660.0
41°	935.8	987.5	1038.0	1087.4	1025.9	979.6	926.4	814.7	719.9	666.3	619.3
41.5°	886.8	941.7	993.7	1042.7	980.8	934.6	882.5	767.0	674.1	625.5	579.3
42°	836.7	895.4	948.7	995.7	935.4	890.3	837.1	721.1	627.5	584.0	539.4
42.5°	788.5	849.2	905.2	949.9	887.2	846.5	790.5	676.5	582.1	542.9	499.4
43°	740.3	803.0	860.2	902.5	839.4	802.2	745.0	632.6	537.4	501.0	460.6
43.5°	694.5	757.6	815.9	856.3	790.1	758.3	700.8	589.1	494.7	461.0	423.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	560.1	622.0	680.4	715.2	646.7	625.2	572.7	469.3	377.6	348.2	317.7
45.5°	519.0	578.5	638.1	670.2	599.3	581.7	531.1	431.7	342.3	312.2	282.4
46°	477.1	536.6	595.0	624.8	554.3	539.0	490.4	397.2	307.1	275.8	247.2
46.5°	436.4	496.7	553.9	580.9	509.2	497.5	450.8	362.7	271.8	239.7	217.0
47°	397.2	458.3	512.7	537.4	466.1	455.9	410.5	328.2	242.1	209.6	188.0
47.5°	359.6	420.7	472.8	494.3	424.2	415.6	375.3	293.8	213.5	180.6	161.8
48°	323.9	384.3	433.6	452.0	387.8	377.6	340.0	259.3	186.8	153.2	137.9
48.5°	289.9	349.4	394.1	411.3	351.4	339.6	304.7	228.4	162.6	129.7	116.3
49°	257.7	315.3	356.4	370.9	314.9	301.6	269.9	199.8	139.8	108.5	97.1
49.5°	228.0	282.8	320.0	333.7	278.5	263.6	239.7	173.9	119.5	89.7	80.7
50°	200.6	251.5	284.8	297.3	242.5	229.1	208.8	148.8	100.3	74.0	66.2
50.5°	175.1	220.9	251.9	262.4	210.7	197.4	180.2	126.1	83.4	61.1	54.4
51°	150.8	191.9	219.0	230.3	181.7	167.3	153.2	106.2	68.2	52.5	46.6
51.5°	130.0	164.1	188.8	199.0	155.1	141.0	128.9	87.7	58.8	43.5	38.8
52°	112.4	139.1	161.4	170.8	129.7	116.7	104.6	71.3	49.4	34.9	30.9
52.5°	94.8	120.6	134.7	143.8	106.5	94.8	83.8	61.1	40.0	26.2	23.1
53°	77.2	101.8	115.9	124.2	85.4	76.0	65.8	50.9	30.6	17.6	15.3
53.5°	59.5	83.0	97.1	104.6	67.0	60.3	55.2	41.1	21.2	12.9	11.0
54°	47.0	64.2	78.3	85.4	56.0	50.1	44.7	31.3	11.8	9.4	8.2
54.5°	35.6	45.8	59.5	65.8	45.0	40.3	34.5	21.2	8.6	7.4	7.1
55°	26.2	33.3	40.7	46.6	34.1	30.6	23.9	11.4	7.4	6.7	6.7
55.5°	18.0	23.9	29.4	34.1	22.7	20.8	13.3	8.2	6.7	6.7	6.3
56°	12.1	16.1	20.0	23.9	11.8	11.0	9.4	7.1	6.7	6.3	5.9
56.5°	10.6	14.1	13.3	15.7	8.6	8.2	7.4	6.7	6.3	5.9	5.9
57°	9.0	12.1	11.8	13.3	7.4	7.1	7.1	6.7	5.9	5.9	5.5
57.5°	7.4	10.2	9.8	11.0	7.1	6.7	6.7	6.3	5.9	5.5	5.1
58°	6.3	8.2	8.2	9.0	6.7	6.7	6.3	5.9	5.5	5.1	5.1
58.5°	5.9	6.3	6.7	6.7	6.3	6.3	6.3	5.9	5.1	5.1	4.7
59°	5.5	5.9	6.3	6.3	5.9	5.9	5.9	5.5	5.1	4.7	4.7
59.5°	5.5	5.9	5.9	6.3	5.9	5.9	5.5	5.1	4.7	4.7	4.3
60°	5.1	5.5	5.9	5.9	5.5	5.5	5.5	5.1	4.7	4.3	4.3
60.5°	4.7	5.1	5.5	5.5	5.1	5.1	5.1	4.7	4.3	4.3	3.9
61°	4.7	5.1	5.1	5.5	5.1	5.1	4.7	4.3	3.9	3.9	3.9
61.5°	4.3	4.7	5.1	5.1	4.7	4.7	4.7	4.3	3.9	3.9	3.5
62°	4.3	4.3	4.7	4.7	4.3	4.3	4.3	3.9	3.5	3.5	3.5
62.5°	3.9	4.3	4.3	4.7	4.3	4.3	4.3	3.9	3.5	3.5	3.1
63°	3.9	3.9	4.3	4.3	3.9	3.9	3.9	3.5	3.5	3.1	3.1
63.5°	3.5	3.9	3.9	4.3	3.9	3.9	3.9	3.5	3.1	3.1	3.1
64°	3.5	3.5	3.9	3.9	3.5	3.5	3.5	3.1	3.1	3.1	2.7
64.5°	3.1	3.5	3.5	3.9	3.5	3.5	3.5	3.1	2.7	2.7	2.7
65°	3.1	3.1	3.5	3.5	3.1	3.1	3.1	3.1	2.7	2.7	2.7
65.5°	2.7	3.1	3.1	3.5	3.1	3.1	3.1	2.7	2.7	2.7	2.4
66°	2.7	3.1	3.1	3.1	3.1	3.1	2.7	2.7	2.4	2.4	2.4



TEST NUMBER: P776376

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	2.4	2.4	2.7	2.7	2.7	2.7	2.4	2.4	2.0	2.0	2.0
68°	2.4	2.4	2.7	2.7	2.4	2.4	2.4	2.4	2.0	2.0	2.0
68.5°	2.0	2.4	2.4	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
69°	2.0	2.4	2.4	2.4	2.4	2.4	2.4	2.0	2.0	2.0	1.6
69.5°	2.0	2.0	2.4	2.4	2.0	2.0	2.0	2.0	1.6	1.6	1.6
70°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6
70.5°	1.6	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6	1.6
71°	1.6	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6	1.6	1.6
71.5°	1.6	1.6	2.0	2.0	1.6	1.6	1.6	1.6	1.2	1.2	1.2
72°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.2
72.5°	1.2	1.6	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.2	1.2
73°	1.2	1.6	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.2	1.2
73.5°	1.2	1.2	1.6	1.6	1.2	1.2	1.2	1.2	1.2	1.2	1.2
74°	1.2	1.2	1.2	1.6	1.2	1.2	1.2	1.2	1.2	0.8	0.8
74.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8
75°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8
75.5°	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.8
76°	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.8
76.5°	0.8	0.8	1.2	1.2	0.8	0.8	0.8	0.8	0.8	0.8	0.8
77°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.8
78°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4
78.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4
79°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4
79.5°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4
80°	0.4	0.4	0.8	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4
80.5°	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4
81°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
81.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
82°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
82.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
83°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
83.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
84°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87°	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
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776376

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
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: P776376

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2090.9	2090.9	2090.9	2090.9	2090.9	2090.9
0.5°	2085.8	2090.1	2089.7	2089.7	2091.3	2091.3
1°	2082.7	2087.4	2087.4	2088.2	2090.5	2092.1
1.5°	2079.2	2084.6	2084.6	2086.2	2089.3	2092.1
2°	2075.2	2081.5	2081.9	2083.9	2088.2	2092.1
2.5°	2070.9	2077.6	2078.4	2080.7	2086.6	2091.3
3°	2066.6	2073.7	2074.8	2077.6	2084.2	2090.1
3.5°	2061.5	2069.4	2070.5	2074.1	2081.5	2088.9
4°	2056.0	2064.7	2066.2	2070.1	2078.8	2087.4
4.5°	2050.6	2059.6	2061.5	2065.8	2075.6	2085.4
5°	2045.1	2054.1	2056.4	2061.1	2072.1	2082.7
5.5°	2038.4	2048.6	2051.0	2056.4	2067.8	2079.9
6°	2031.8	2042.3	2044.7	2051.0	2063.5	2076.8
6.5°	2024.7	2036.1	2038.8	2045.1	2059.2	2072.9
7°	2017.7	2029.4	2032.5	2039.2	2054.1	2069.0
7.5°	2009.8	2022.4	2025.5	2032.9	2048.6	2064.7
8°	2001.6	2014.9	2018.4	2025.9	2042.7	2060.4
8.5°	1993.4	2006.7	2010.6	2019.2	2036.9	2055.3
9°	1984.4	1998.5	2002.8	2011.8	2030.6	2049.8
9.5°	1975.4	1990.2	1994.5	2003.6	2023.9	2044.3
10°	1966.7	1981.2	1985.9	1995.7	2016.5	2038.0
10.5°	1956.9	1972.6	1977.3	1987.1	2009.0	2031.8
11°	1947.2	1962.8	1967.9	1978.9	2000.8	2025.1
11.5°	1937.0	1953.4	1958.5	1969.9	1993.4	2018.4
12°	1926.4	1943.6	1948.7	1960.5	1985.1	2011.0
12.5°	1915.8	1933.1	1938.9	1950.7	1976.1	2002.8
13°	1904.8	1922.9	1928.7	1940.9	1966.7	1994.9
13.5°	1893.5	1911.9	1918.2	1930.7	1958.1	1986.7
14°	1882.1	1900.9	1907.6	1920.5	1948.3	1978.1
14.5°	1870.8	1889.6	1896.6	1909.9	1938.9	1969.1
15°	1858.6	1877.8	1884.9	1899.0	1928.4	1960.1
15.5°	1846.5	1866.5	1873.5	1887.6	1918.2	1950.7
16°	1834.3	1854.3	1861.4	1876.3	1907.6	1940.5
16.5°	1821.4	1841.8	1849.2	1864.9	1896.6	1930.3
17°	1808.9	1829.6	1837.1	1853.1	1885.3	1920.1
17.5°	1795.6	1816.7	1824.5	1840.6	1873.9	1909.5
18°	1782.2	1803.8	1812.0	1828.5	1862.5	1899.0
18.5°	1769.3	1790.5	1798.7	1815.5	1850.4	1888.0
19°	1755.2	1777.2	1785.4	1802.6	1838.3	1875.9
19.5°	1741.1	1763.4	1772.1	1789.7	1826.1	1864.5
20°	1726.6	1749.7	1758.0	1776.4	1813.2	1852.8
20.5°	1712.5	1735.2	1744.3	1763.1	1800.7	1840.6
21°	1698.0	1720.7	1729.8	1749.0	1787.3	1828.9

TEST NUMBER: P776376

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1652.6	1676.5	1685.9	1706.3	1747.4	1790.1
23°	1636.9	1661.2	1671.0	1691.8	1732.9	1776.8
23.5°	1621.6	1645.5	1655.7	1676.9	1718.8	1763.1
24°	1605.6	1629.9	1640.4	1662.0	1704.3	1749.0
24.5°	1590.3	1614.2	1625.2	1646.7	1690.2	1735.2
25°	1574.3	1598.1	1609.1	1631.0	1675.3	1721.1
25.5°	1558.2	1582.5	1593.8	1615.8	1660.4	1706.6
26°	1542.5	1566.4	1577.8	1600.5	1645.5	1692.5
26.5°	1526.9	1550.7	1562.1	1584.8	1630.3	1677.7
27°	1511.2	1534.7	1546.4	1569.2	1615.4	1663.2
27.5°	1496.3	1519.0	1530.8	1554.3	1600.1	1648.3
28°	1481.4	1503.4	1515.1	1539.0	1585.2	1633.8
28.5°	1466.5	1488.5	1500.2	1524.1	1569.9	1618.5
29°	1452.0	1474.0	1485.7	1509.6	1555.5	1603.6
29.5°	1437.2	1459.1	1470.8	1495.5	1541.3	1589.5
30°	1422.3	1444.2	1456.3	1481.4	1526.9	1575.4
30.5°	1406.2	1428.9	1441.5	1466.5	1513.1	1561.3
31°	1389.4	1414.0	1426.6	1451.6	1499.4	1547.6
31.5°	1364.7	1398.0	1410.5	1436.8	1485.3	1533.5
32°	1335.7	1379.2	1392.1	1420.3	1470.5	1519.8
32.5°	1303.2	1351.8	1366.3	1399.9	1455.2	1506.1
33°	1265.6	1318.5	1336.5	1374.1	1438.3	1491.6
33.5°	1226.4	1282.0	1303.6	1340.8	1414.4	1475.9
34°	1186.1	1246.0	1266.8	1300.8	1387.0	1459.1
34.5°	1145.7	1208.0	1226.8	1260.5	1355.7	1436.4
35°	1104.2	1168.8	1182.9	1219.4	1320.8	1410.1
35.5°	1060.3	1129.3	1138.7	1179.0	1285.6	1381.5
36°	1015.7	1085.8	1095.2	1139.5	1248.4	1349.8
36.5°	969.9	1041.9	1050.5	1099.9	1208.4	1318.1
37°	924.8	995.7	1007.1	1060.3	1167.7	1283.2
37.5°	879.4	950.3	964.4	1018.8	1125.4	1246.4
38°	835.9	902.9	920.5	974.2	1083.4	1206.8
38.5°	792.4	857.4	877.8	929.5	1040.4	1165.3
39°	749.3	811.6	834.7	884.1	999.6	1121.8
39.5°	706.6	765.4	790.8	838.6	957.3	1077.6
40°	663.5	718.0	747.0	793.2	915.0	1031.7
40.5°	620.5	672.9	703.5	751.3	869.6	985.1
41°	578.2	629.5	660.4	709.0	825.3	935.8
41.5°	537.4	587.2	618.5	668.2	778.3	886.8
42°	495.9	546.8	577.8	628.3	731.7	836.7
42.5°	457.9	506.1	537.4	587.6	685.5	788.5
43°	421.5	468.9	498.2	545.6	640.0	740.3
43.5°	389.4	431.7	459.9	504.5	595.0	694.5



TEST NUMBER: P776376

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	293.8	331.4	349.4	387.4	465.3	560.1
45.5°	262.0	301.2	316.1	351.4	424.2	519.0
46°	232.3	272.2	284.8	316.5	384.7	477.1
46.5°	206.8	244.8	254.2	281.6	346.3	436.4
47°	182.9	219.7	226.0	248.7	309.1	397.2
47.5°	161.0	195.5	199.0	217.0	275.0	359.6
48°	139.8	172.7	174.3	186.1	242.9	323.9
48.5°	120.3	151.6	151.2	158.2	213.5	289.9
49°	102.6	133.2	132.0	132.4	186.1	257.7
49.5°	86.6	116.7	115.2	114.8	161.0	228.0
50°	72.1	100.7	97.9	97.5	137.5	200.6
50.5°	59.1	84.2	81.1	79.9	120.6	175.1
51°	50.1	68.2	63.8	62.7	103.8	150.8
51.5°	41.1	55.6	51.7	51.3	87.0	130.0
52°	32.5	44.7	41.5	41.5	69.7	112.4
52.5°	23.5	34.5	32.1	33.3	53.3	94.8
53°	14.5	25.5	24.3	25.9	42.3	77.2
53.5°	9.8	18.0	17.6	19.2	32.9	59.5
54°	7.4	12.1	12.1	13.7	24.7	47.0
54.5°	6.7	10.6	10.6	11.8	18.0	35.6
55°	6.3	9.0	9.0	9.8	12.5	26.2
55.5°	5.9	7.4	7.4	7.8	11.0	18.0
56°	5.9	5.9	5.9	6.3	9.4	12.1
56.5°	5.5	5.9	5.5	5.9	7.4	10.6
57°	5.1	5.5	5.5	5.5	5.9	9.0
57.5°	5.1	5.1	5.1	5.5	5.9	7.4
58°	4.7	5.1	5.1	5.1	5.5	6.3
58.5°	4.7	4.7	4.7	4.7	5.5	5.9
59°	4.3	4.7	4.3	4.7	5.1	5.5
59.5°	4.3	4.3	4.3	4.3	4.7	5.5
60°	3.9	3.9	3.9	3.9	4.7	5.1
60.5°	3.9	3.9	3.9	3.9	4.3	4.7
61°	3.5	3.5	3.5	3.5	3.9	4.7
61.5°	3.5	3.5	3.5	3.5	3.9	4.3
62°	3.1	3.5	3.1	3.5	3.5	4.3
62.5°	3.1	3.1	3.1	3.1	3.5	3.9
63°	2.7	3.1	3.1	3.1	3.1	3.9
63.5°	2.7	2.7	2.7	2.7	3.1	3.5
64°	2.7	2.7	2.7	2.7	3.1	3.5
64.5°	2.4	2.7	2.4	2.7	2.7	3.1
65°	2.4	2.4	2.4	2.4	2.7	3.1
65.5°	2.4	2.4	2.4	2.4	2.7	2.7
66°	2.4	2.4	2.4	2.4	2.4	2.7



TEST NUMBER: P776376
 CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	2.0	2.0	2.0	2.0	2.0	2.4
68°	2.0	2.0	1.6	2.0	2.0	2.4
68.5°	1.6	1.6	1.6	1.6	2.0	2.0
69°	1.6	1.6	1.6	1.6	2.0	2.0
69.5°	1.6	1.6	1.6	1.6	1.6	2.0
70°	1.6	1.6	1.6	1.6	1.6	2.0
70.5°	1.2	1.6	1.2	1.2	1.6	1.6
71°	1.2	1.2	1.2	1.2	1.6	1.6
71.5°	1.2	1.2	1.2	1.2	1.2	1.6
72°	1.2	1.2	1.2	1.2	1.2	1.6
72.5°	1.2	1.2	1.2	1.2	1.2	1.2
73°	1.2	1.2	1.2	1.2	1.2	1.2
73.5°	0.8	0.8	0.8	0.8	1.2	1.2
74°	0.8	0.8	0.8	0.8	1.2	1.2
74.5°	0.8	0.8	0.8	0.8	0.8	1.2
75°	0.8	0.8	0.8	0.8	0.8	1.2
75.5°	0.8	0.8	0.8	0.8	0.8	0.8
76°	0.8	0.8	0.8	0.8	0.8	0.8
76.5°	0.8	0.8	0.8	0.8	0.8	0.8
77°	0.8	0.8	0.4	0.4	0.8	0.8
77.5°	0.4	0.4	0.4	0.4	0.8	0.8
78°	0.4	0.4	0.4	0.4	0.4	0.8
78.5°	0.4	0.4	0.4	0.4	0.4	0.8
79°	0.4	0.4	0.4	0.4	0.4	0.4
79.5°	0.4	0.4	0.4	0.4	0.4	0.4
80°	0.4	0.4	0.4	0.4	0.4	0.4
80.5°	0.4	0.4	0.4	0.4	0.4	0.4
81°	0.4	0.4	0.4	0.4	0.4	0.4
81.5°	0.4	0.4	0.4	0.4	0.4	0.4
82°	0.4	0.4	0.4	0.4	0.4	0.4
82.5°	0.0	0.4	0.4	0.0	0.4	0.4
83°	0.0	0.0	0.0	0.0	0.0	0.4
83.5°	0.0	0.0	0.0	0.0	0.0	0.4
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	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
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	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
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776376
CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.0	0.0



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Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°

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21.5°	1815.9	1841.0	1860.2	1869.6	1850.0	1839.8	1819.1	1779.9	1738.4	1713.7	1694.1
22°	1802.6	1828.9	1848.8	1857.5	1837.5	1826.9	1806.1	1766.6	1724.7	1699.2	1679.2



44°	648.7	711.7	770.5	808.9	742.7	714.1	657.3	548.0	453.6	420.7	388.2
44.5°	604.4	666.3	725.8	761.9	694.1	669.8	615.0	508.4	413.2	384.7	352.9



66.5°	2.7	2.7	3.1	3.1	2.7	2.7	2.7	2.7	2.4	2.4	2.4
67°	2.4	2.7	2.7	2.7	2.7	2.7	2.7	2.4	2.4	2.4	2.0



89°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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21.5°	1683.1	1705.9	1715.7	1734.8	1774.4	1815.9
22°	1667.5	1690.6	1700.8	1720.7	1760.7	1802.6



44°	357.6	396.8	421.5	464.2	551.5	648.7
44.5°	325.5	363.1	385.4	425.8	507.6	604.4

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66.5°	2.0	2.0	2.0	2.0	2.4	2.7
67°	2.0	2.0	2.0	2.0	2.4	2.4

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89°	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report



(END OF REPORT)