

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: P776277

Luminaire Tested: HCDJBL3040CSD-HCD42TRMB-4000lm-3500K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776277
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B051)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS3040CSD-HCD42TRMB-4000lm-3500K
Description: 4 INCH ROUND NARROW MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

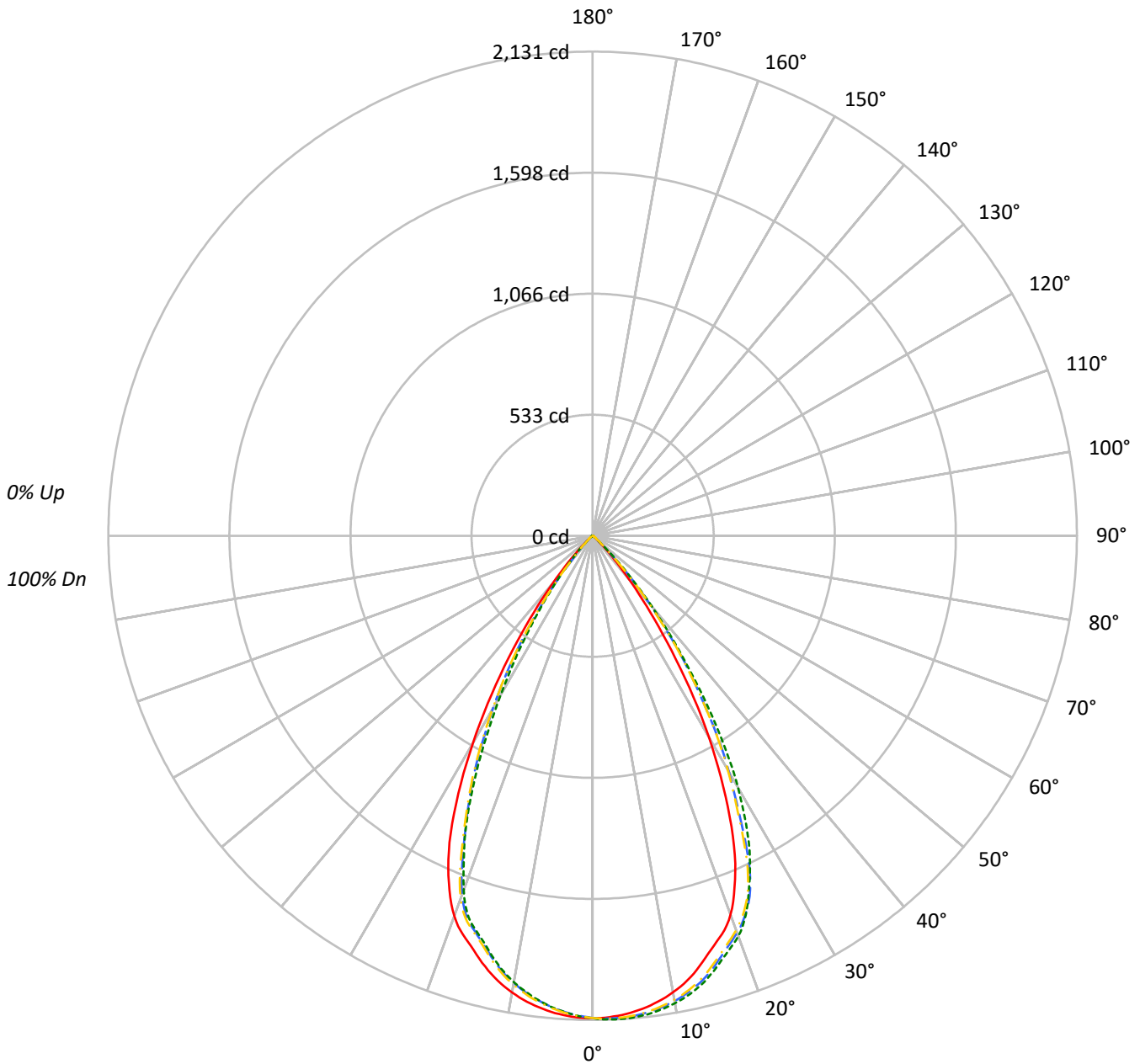
Lumens per Lamp: N/A
Luminaire Lumens: 1874.5 lumens
Efficiency: N/A
Efficacy: 48.7 lumens/watt
Spacing Criteria (0/90/45): 0.95 / 0.94 / 0.88
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
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: 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										
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	100	100	100	100		
	1	114	111	109	106	111	109	107	105	105	103	101	101	100	98	98	97	96	94	94	94	94	94	94		
	2	108	103	100	96	106	102	98	95	99	96	93	96	93	91	93	91	89	88	88	88	88	88	88		
	3	103	97	92	88	101	95	91	87	93	89	86	90	87	85	88	85	83	82	82	82	82	82	82		
	4	98	91	85	81	96	89	84	81	87	83	80	85	82	79	83	80	78	76	76	76	76	76	76		
	5	93	85	79	75	91	84	79	75	82	78	74	81	77	73	79	76	73	71	71	71	71	71	71		
	6	89	80	74	70	87	79	74	70	78	73	69	76	72	69	75	71	68	67	67	67	67	67	67		
	7	84	75	69	65	83	74	69	65	73	68	65	72	68	64	71	67	64	63	63	63	63	63	63		
	8	80	71	65	61	79	70	65	61	69	64	61	68	64	60	67	63	60	59	59	59	59	59	59		
	9	76	67	61	57	75	67	61	57	66	61	57	65	60	57	64	60	57	55	55	55	55	55	55		
	10	73	63	58	54	72	63	58	54	62	57	54	61	57	54	61	56	53	52	52	52	52	52	52		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	267141	267141	267141	267141
5°	265610	268718	265698	262944
10°	260656	266956	260809	254931
15°	250390	260787	251067	241231
20°	237653	251152	238550	222010
25°	202791	227328	206818	175935
30°	148690	185848	152730	117650
35°	87848	124259	94070	67046
40°	40316	66273	44948	30458
45°	12441	22550	14203	8899
50°	3974	4503	4033	3426
55°	2435	2787	2435	2084
60°	1510	1712	1611	1410
65°	1072	1072	1072	953
70°	736	736	736	589
75°	389	583	389	389
80°	290	290	290	290
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 23529 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	198.7	10.6
10°-20°	540.4	28.8
20°-30°	655.9	35.0
30°-40°	386.4	20.6
40°-50°	77.8	4.1
50°-60°	10.6	0.6
60°-70°	3.6	0.2
70°-80°	1.1	0.1
80°-90°	0.1	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°	1395.0	74.4
0°-40°	1781.4	95.0
0°-60°	1869.8	99.7
0°-90°	1874.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1874.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2123	2123	2123	2123	2123	
5°	2102	2127	2103	2081	2102	199
15°	1922	2002	1927	1852	1922	540
25°	1460	1637	1489	1267	1460	654
35°	572	809	612	436	572	363
45°	70	127	80	50	70	68
55°	11	13	11	10	11	10
65°	4	4	4	3	4	4
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°	2122.7	2122.7	2122.7	2122.7	2122.7	2122.7	2122.7	2122.7	2122.7	2122.7	2122.7
0.5°	2123.1	2124.3	2123.1	2122.3	2126.7	2125.1	2123.9	2123.5	2123.1	2122.7	2119.5
1°	2122.3	2124.3	2124.3	2123.9	2128.3	2126.7	2125.1	2123.9	2122.7	2121.1	2116.7
1.5°	2121.5	2124.3	2125.5	2125.5	2129.5	2127.9	2125.5	2123.5	2121.5	2119.1	2114.0
2°	2119.9	2123.5	2125.9	2126.3	2130.2	2128.7	2125.9	2123.1	2120.3	2117.1	2110.4
2.5°	2117.9	2122.7	2125.9	2126.7	2131.0	2129.1	2125.5	2122.3	2118.3	2114.4	2106.4
3°	2115.6	2121.1	2125.5	2127.1	2131.0	2129.1	2125.1	2120.7	2116.4	2111.2	2102.5
3.5°	2113.2	2119.5	2125.1	2126.7	2130.6	2128.3	2123.9	2119.1	2113.6	2107.6	2098.1
4°	2110.0	2117.1	2123.9	2125.9	2129.9	2127.5	2122.7	2116.7	2110.4	2103.6	2092.9
4.5°	2106.4	2114.8	2122.7	2125.1	2128.7	2126.3	2120.7	2114.4	2107.2	2099.7	2087.4
5°	2102.5	2111.6	2120.7	2123.5	2127.1	2124.3	2118.7	2111.6	2103.2	2094.9	2081.4
5.5°	2098.1	2108.4	2118.3	2121.9	2125.1	2122.3	2116.0	2108.4	2098.9	2089.7	2075.5
6°	2093.3	2104.4	2115.6	2119.5	2122.7	2119.5	2112.8	2104.4	2094.1	2084.2	2068.7
6.5°	2088.2	2100.5	2112.4	2116.7	2120.3	2116.7	2109.2	2100.1	2089.0	2077.8	2061.6
7°	2083.0	2095.7	2108.8	2113.6	2116.7	2113.2	2105.6	2095.3	2083.8	2071.5	2053.6
7.5°	2076.6	2090.5	2104.8	2110.4	2113.2	2109.2	2101.7	2090.5	2077.8	2064.3	2045.7
8°	2070.3	2085.0	2100.9	2106.4	2109.2	2105.2	2096.5	2085.0	2071.1	2057.2	2037.3
8.5°	2063.1	2079.0	2095.7	2102.1	2104.8	2100.5	2091.3	2079.0	2064.3	2049.6	2028.2
9°	2056.0	2072.7	2090.5	2097.3	2100.1	2095.7	2085.8	2072.7	2057.2	2041.3	2019.1
9.5°	2048.1	2065.5	2085.0	2092.1	2094.9	2090.1	2079.8	2065.9	2049.2	2033.0	2008.7
10°	2039.7	2058.4	2079.0	2086.6	2089.0	2084.6	2073.5	2058.8	2040.9	2023.4	1998.4
10.5°	2030.6	2050.4	2072.7	2080.6	2083.0	2077.8	2066.7	2050.8	2032.2	2013.9	1987.7
11°	2021.9	2042.5	2065.5	2073.9	2076.2	2071.1	2059.2	2042.5	2023.4	2003.6	1976.2
11.5°	2011.9	2033.8	2058.0	2067.1	2069.1	2063.5	2051.2	2033.8	2013.5	1992.9	1963.5
12°	2001.2	2024.2	2050.0	2060.0	2061.6	2056.0	2042.9	2024.6	2003.2	1981.4	1950.4
12.5°	1989.7	2013.9	2041.7	2051.6	2053.6	2047.3	2033.8	2014.7	1992.1	1969.0	1936.5
13°	1977.4	2003.6	2032.2	2043.3	2044.5	2038.5	2024.2	2004.4	1980.6	1956.3	1921.8
13.5°	1964.3	1991.7	2023.0	2034.2	2035.0	2028.6	2013.9	1992.9	1967.9	1942.8	1906.7
14°	1950.8	1979.8	2012.7	2024.2	2025.0	2018.3	2002.8	1981.0	1954.7	1928.1	1890.4
14.5°	1936.5	1966.7	2001.6	2013.5	2013.5	2006.4	1991.3	1968.2	1941.2	1913.1	1874.9
15°	1921.8	1952.8	1989.7	2002.0	2001.6	1994.9	1978.6	1955.1	1927.0	1898.0	1859.5
15.5°	1907.1	1938.5	1977.0	1989.7	1989.7	1982.1	1965.5	1941.2	1912.3	1882.9	1845.6
16°	1893.2	1924.6	1963.5	1977.0	1976.6	1969.0	1952.0	1927.0	1897.6	1868.2	1832.1
16.5°	1880.5	1910.7	1949.6	1963.5	1962.7	1955.5	1938.1	1913.1	1884.1	1854.7	1818.6
17°	1867.4	1898.0	1935.7	1950.4	1949.6	1942.0	1924.2	1899.6	1871.0	1842.0	1805.1
17.5°	1855.1	1885.3	1922.6	1936.9	1936.9	1929.3	1911.1	1886.8	1858.3	1828.9	1791.6
18°	1842.4	1873.0	1909.5	1924.6	1925.4	1917.0	1899.2	1874.1	1845.2	1815.4	1775.7
18.5°	1828.9	1859.8	1897.2	1912.7	1913.1	1905.1	1886.1	1860.6	1831.7	1801.1	1757.4
19°	1813.0	1847.1	1884.5	1900.3	1901.1	1892.8	1873.3	1848.3	1817.0	1784.4	1735.2
19.5°	1794.7	1832.8	1872.2	1887.6	1889.2	1880.5	1860.6	1834.0	1800.3	1764.6	1709.8
20°	1774.5	1816.6	1859.1	1875.7	1875.3	1867.0	1847.1	1819.0	1781.2	1741.9	1680.0
20.5°	1751.1	1798.3	1845.6	1861.8	1859.5	1851.9	1832.5	1802.3	1759.4	1716.9	1646.6
21°	1725.6	1778.8	1830.5	1846.3	1841.2	1834.4	1816.6	1783.6	1736.4	1688.7	1608.1



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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°	1637.9	1705.4	1777.3	1788.4	1774.9	1772.1	1759.8	1716.5	1653.4	1587.5	1483.8
23°	1606.1	1676.4	1755.4	1765.3	1748.7	1746.7	1737.6	1689.9	1624.4	1549.3	1442.9
23.5°	1573.6	1645.8	1731.2	1739.5	1720.5	1719.3	1711.3	1660.1	1593.0	1509.6	1402.4
24°	1537.4	1613.3	1704.2	1710.9	1692.7	1691.5	1682.8	1628.8	1560.5	1469.5	1364.3
24.5°	1499.7	1578.7	1673.6	1681.6	1665.3	1660.9	1649.8	1596.2	1525.9	1429.4	1325.8
25°	1460.4	1543.0	1637.5	1649.8	1637.1	1630.7	1614.9	1561.3	1489.4	1391.3	1287.3
25.5°	1418.7	1504.9	1599.0	1618.8	1608.9	1600.6	1574.8	1523.9	1449.7	1353.6	1248.4
26°	1376.2	1463.6	1554.9	1585.5	1579.1	1569.6	1531.1	1484.2	1408.8	1316.7	1208.7
26.5°	1332.2	1419.1	1508.1	1551.3	1547.4	1535.1	1484.6	1442.1	1365.9	1278.5	1167.8
27°	1288.1	1373.0	1459.2	1514.4	1513.6	1499.3	1439.8	1397.7	1323.4	1240.0	1125.7
27.5°	1244.4	1324.6	1411.2	1477.1	1475.9	1461.6	1394.1	1351.2	1278.5	1201.1	1081.6
28°	1201.1	1275.0	1364.3	1435.4	1437.4	1422.7	1350.4	1301.6	1233.3	1161.0	1038.3
28.5°	1157.4	1225.7	1320.6	1392.9	1397.3	1379.8	1307.5	1253.9	1190.0	1119.7	995.8
29°	1112.6	1177.3	1278.9	1347.6	1358.8	1335.7	1269.0	1207.1	1143.1	1076.4	955.3
29.5°	1068.1	1128.1	1239.6	1301.6	1319.0	1290.1	1228.9	1161.4	1096.7	1030.4	915.2
30°	1023.2	1082.4	1199.9	1254.3	1278.9	1244.8	1189.6	1117.3	1051.0	985.5	875.5
30.5°	978.4	1035.1	1160.2	1209.5	1236.1	1199.1	1149.9	1072.9	1006.6	939.9	837.0
31°	931.5	989.9	1117.7	1165.0	1192.8	1155.5	1109.0	1029.2	960.5	895.4	798.1
31.5°	885.5	943.8	1074.5	1120.9	1145.5	1111.8	1064.9	985.5	915.2	851.3	759.2
32°	839.0	899.4	1029.2	1078.4	1097.9	1069.3	1020.5	941.4	870.4	809.2	719.9
32.5°	792.5	856.1	983.1	1037.5	1049.0	1025.6	975.6	896.6	827.1	767.9	678.2
33°	746.1	813.2	936.3	995.4	1000.2	983.5	930.7	850.5	782.2	727.4	637.3
33.5°	700.0	770.3	891.0	953.0	952.2	939.5	886.2	806.4	738.5	686.5	597.2
34°	655.2	729.8	848.1	909.7	904.1	896.6	844.2	764.0	695.7	644.8	558.3
34.5°	612.3	688.9	807.2	866.4	856.5	851.7	804.8	722.3	654.0	603.1	519.4
35°	571.8	648.8	765.9	821.5	808.8	808.0	764.0	682.2	612.3	561.4	482.4
35.5°	532.9	610.7	727.0	777.1	762.8	765.5	725.0	643.2	572.6	520.9	446.7
36°	495.1	574.9	688.1	733.0	717.9	722.7	684.9	606.7	534.1	480.8	412.2
36.5°	458.2	539.2	649.2	691.3	673.4	679.4	644.4	570.6	497.1	442.7	378.0
37°	423.3	503.1	609.1	650.0	630.9	636.9	603.1	535.2	459.4	405.8	343.9
37.5°	390.3	468.5	569.8	610.3	590.4	595.2	562.2	499.9	425.7	373.6	309.7
38°	358.2	433.6	529.7	571.0	551.1	554.7	522.1	465.8	392.7	341.9	276.0
38.5°	327.2	399.4	491.2	530.9	513.0	514.2	483.2	431.6	362.9	309.7	244.6
39°	298.6	366.1	455.0	493.2	475.7	475.7	445.1	397.9	333.1	277.9	215.6
39.5°	271.2	333.9	420.1	455.4	439.2	437.6	409.8	366.1	303.4	251.7	189.0
40°	245.4	303.4	387.9	418.1	403.4	401.4	378.4	334.7	273.6	224.7	165.6
40.5°	221.2	274.0	355.8	381.6	371.3	367.3	347.0	303.4	247.0	200.1	144.9
41°	198.1	246.2	325.6	345.4	339.1	333.5	315.7	272.0	222.8	177.1	127.1
41.5°	177.5	220.8	295.8	311.7	306.9	299.8	284.3	244.2	199.3	155.6	111.6
42°	158.0	196.9	266.4	279.5	274.8	265.6	252.9	218.4	177.9	136.2	98.9
42.5°	140.2	174.7	237.8	249.8	247.4	236.3	224.3	193.4	158.0	119.5	87.8
43°	125.9	153.7	209.3	221.6	220.0	208.5	196.5	170.3	139.8	104.4	77.0
43.5°	112.0	136.2	182.6	195.4	195.4	183.0	170.7	149.7	122.7	91.3	67.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	69.9	89.7	118.7	132.2	126.7	119.1	107.6	96.1	79.8	60.4	45.3
45.5°	60.0	74.6	102.4	115.9	107.2	102.0	90.9	82.2	68.3	52.0	40.5
46°	50.8	63.1	86.6	99.7	90.5	86.6	77.0	69.1	57.6	44.5	36.1
46.5°	42.5	52.8	70.3	83.4	75.4	73.1	64.7	58.4	48.4	40.1	31.4
47°	35.7	43.7	59.2	67.5	62.3	60.8	54.0	48.4	43.3	35.3	27.0
47.5°	29.8	36.1	48.8	56.0	51.2	50.4	48.8	43.3	38.1	31.0	22.2
48°	25.8	29.8	40.5	46.1	45.7	44.9	43.7	38.1	33.0	26.6	20.6
48.5°	23.4	25.8	33.4	37.3	39.7	39.7	38.5	33.4	27.8	22.2	19.9
49°	22.2	23.4	28.2	30.6	34.1	34.1	33.4	28.2	22.6	21.0	19.1
49.5°	21.0	22.2	25.0	26.2	28.6	28.6	27.8	23.4	21.4	19.9	18.3
50°	20.3	21.0	23.0	23.8	23.0	23.4	22.6	21.8	20.6	19.1	17.1
50.5°	19.1	20.3	21.8	22.2	21.8	22.2	21.8	21.0	19.5	18.3	16.3
51°	18.3	19.1	21.0	21.4	21.0	21.0	20.6	19.9	18.7	17.1	15.1
51.5°	17.1	18.3	19.9	20.3	19.9	19.9	19.5	18.7	17.5	16.3	14.3
52°	16.3	17.1	19.1	19.5	19.1	19.1	18.7	17.5	16.3	15.1	13.5
52.5°	15.1	15.9	17.9	18.3	17.9	17.9	17.5	16.7	15.5	14.3	12.7
53°	14.3	15.1	16.7	17.1	16.7	16.7	16.3	15.5	14.3	13.5	11.9
53.5°	13.5	13.9	15.5	15.9	15.5	15.5	15.1	14.7	13.5	12.7	11.1
54°	12.7	13.1	14.7	15.1	14.7	14.7	14.3	13.5	12.7	11.9	10.7
54.5°	11.9	12.3	13.9	14.3	13.5	13.5	13.5	12.7	11.9	11.1	9.9
55°	11.1	11.9	12.7	13.1	12.7	12.7	12.7	11.9	11.1	10.7	9.5
55.5°	10.3	11.1	11.9	12.3	11.9	11.9	11.9	11.1	10.7	9.9	8.7
56°	9.9	10.3	11.1	11.5	11.1	11.1	11.1	10.7	9.9	9.5	8.3
56.5°	9.1	9.5	10.7	10.7	10.7	10.7	10.3	9.9	9.5	8.7	7.9
57°	8.7	9.1	9.9	10.3	9.9	9.9	9.9	9.5	8.7	8.3	7.5
57.5°	7.9	8.3	9.1	9.5	9.1	9.1	9.1	8.7	8.3	7.9	7.1
58°	7.5	7.9	8.7	9.1	8.7	8.7	8.7	8.3	7.9	7.5	6.8
58.5°	7.1	7.5	8.3	8.3	8.3	8.3	7.9	7.9	7.5	7.1	6.4
59°	6.8	7.1	7.5	7.9	7.5	7.5	7.5	7.5	7.1	6.8	6.0
59.5°	6.4	6.8	7.1	7.5	7.1	7.1	7.1	6.8	6.8	6.4	5.6
60°	6.0	6.4	6.8	7.1	6.8	6.8	6.8	6.4	6.4	6.0	5.2
60.5°	5.6	6.0	6.4	6.8	6.4	6.4	6.4	6.0	6.0	5.6	5.2
61°	5.6	5.6	6.0	6.4	6.0	6.0	6.0	6.0	5.6	5.2	4.8
61.5°	5.2	5.2	5.6	6.0	5.6	5.6	5.6	5.6	5.2	4.8	4.4
62°	4.8	4.8	5.6	5.6	5.6	5.6	5.2	5.2	4.8	4.8	4.4
62.5°	4.4	4.8	5.2	5.2	5.2	5.2	5.2	4.8	4.8	4.4	4.0
63°	4.4	4.4	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	4.0
63.5°	4.0	4.0	4.4	4.8	4.4	4.4	4.4	4.4	4.0	4.0	3.6
64°	4.0	4.0	4.4	4.4	4.4	4.4	4.4	4.0	4.0	3.6	3.6
64.5°	3.6	3.6	4.0	4.0	4.0	4.0	4.0	4.0	3.6	3.6	3.2
65°	3.6	3.6	4.0	4.0	3.6	3.6	3.6	3.6	3.6	3.2	3.2
65.5°	3.2	3.2	3.6	3.6	3.6	3.6	3.6	3.6	3.2	3.2	2.8
66°	3.2	3.2	3.2	3.6	3.2	3.2	3.2	3.2	3.2	2.8	2.8



TEST NUMBER: P776277

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	2.4	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.4	2.4
68°	2.4	2.4	2.8	2.8	2.8	2.8	2.8	2.4	2.4	2.4	2.0
68.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.0
69°	2.0	2.0	2.4	2.4	2.4	2.4	2.4	2.4	2.0	2.0	2.0
69.5°	2.0	2.0	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0	2.0
70°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.6
70.5°	1.6	1.6	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6
71°	1.6	1.6	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6	1.6
71.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
72°	1.2	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.2
72.5°	1.2	1.2	1.6	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.2
73°	1.2	1.2	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.2	1.2
73.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
74°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
74.5°	0.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8
75°	0.8	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8
75.5°	0.8	0.8	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.8
76°	0.8	0.8	0.8	0.8	0.8	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	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°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4
78°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4
78.5°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4
79°	0.4	0.4	0.4	0.8	0.4	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	0.4	0.4	0.4	0.4	0.4
80°	0.4	0.4	0.4	0.4	0.4	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	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°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
82°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
82.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
83°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	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	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
85.5°	0.0	0.0	0.0	0.0	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: P776277

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMB-4000lm-3500K

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: P776277

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2122.7	2122.7	2122.7	2122.7	2122.7	2122.7
0.5°	2117.5	2121.9	2120.7	2120.7	2121.5	2123.1
1°	2114.4	2119.1	2118.3	2118.3	2120.3	2122.3
1.5°	2111.2	2116.0	2115.2	2116.0	2118.3	2121.5
2°	2107.2	2112.0	2111.6	2112.8	2116.0	2119.9
2.5°	2102.9	2108.0	2107.6	2109.2	2113.2	2117.9
3°	2098.5	2103.6	2103.2	2105.6	2110.0	2115.6
3.5°	2093.3	2098.5	2098.5	2101.3	2106.8	2113.2
4°	2087.8	2093.3	2093.3	2096.5	2102.5	2110.0
4.5°	2082.2	2087.4	2087.8	2091.3	2098.1	2106.4
5°	2075.5	2081.4	2081.8	2086.2	2093.3	2102.5
5.5°	2069.1	2074.7	2075.1	2080.2	2088.6	2098.1
6°	2061.6	2067.5	2068.3	2073.9	2082.6	2093.3
6.5°	2054.4	2060.0	2061.2	2066.7	2076.6	2088.2
7°	2046.1	2052.0	2053.2	2060.0	2070.3	2083.0
7.5°	2037.3	2043.7	2045.3	2052.0	2063.1	2076.6
8°	2028.6	2034.6	2036.5	2043.7	2056.0	2070.3
8.5°	2019.1	2025.4	2027.4	2035.0	2048.1	2063.1
9°	2009.1	2015.5	2017.9	2026.2	2039.7	2056.0
9.5°	1999.2	2005.6	2008.0	2016.3	2031.0	2048.1
10°	1988.1	1994.9	1997.2	2006.8	2021.9	2039.7
10.5°	1977.0	1983.3	1986.1	1996.0	2011.9	2030.6
11°	1964.3	1971.4	1974.6	1984.5	2001.2	2021.9
11.5°	1951.6	1958.3	1961.5	1972.2	1990.1	2011.9
12°	1938.1	1945.2	1948.0	1959.5	1978.2	2001.2
12.5°	1923.4	1930.5	1933.3	1944.8	1965.1	1989.7
13°	1908.3	1915.0	1917.8	1930.5	1952.0	1977.4
13.5°	1892.4	1899.6	1902.7	1915.4	1937.3	1964.3
14°	1875.7	1883.3	1886.5	1899.6	1922.6	1950.8
14.5°	1859.8	1867.0	1870.2	1884.1	1907.1	1936.5
15°	1845.2	1851.5	1854.7	1867.8	1892.0	1921.8
15.5°	1831.3	1837.2	1840.8	1853.5	1876.9	1907.1
16°	1817.4	1823.7	1827.3	1840.0	1863.4	1893.2
16.5°	1803.5	1810.2	1813.4	1826.9	1850.7	1880.5
17°	1790.0	1796.7	1799.9	1813.8	1838.0	1867.4
17.5°	1775.3	1782.4	1786.0	1800.7	1824.9	1855.1
18°	1756.2	1766.1	1770.1	1786.4	1811.8	1842.4
18.5°	1734.8	1744.3	1749.5	1769.7	1796.7	1828.9
19°	1710.2	1720.1	1727.2	1749.5	1778.8	1813.0
19.5°	1682.0	1691.1	1700.2	1726.0	1758.2	1794.7
20°	1650.2	1657.7	1670.1	1697.8	1734.4	1774.5
20.5°	1615.7	1622.4	1636.3	1666.9	1706.6	1751.1
21°	1579.1	1585.5	1600.2	1631.5	1675.6	1725.6

TEST NUMBER: P776277

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1455.2	1475.5	1480.3	1508.4	1564.8	1637.9
23°	1412.0	1439.0	1439.0	1465.2	1523.1	1606.1
23.5°	1368.3	1399.3	1396.9	1422.3	1483.4	1573.6
24°	1326.6	1357.6	1352.8	1379.8	1443.7	1537.4
24.5°	1283.3	1313.5	1308.7	1340.1	1405.6	1499.7
25°	1241.2	1267.0	1265.4	1298.8	1368.7	1460.4
25.5°	1200.3	1221.8	1221.8	1259.1	1331.8	1418.7
26°	1159.8	1174.5	1176.9	1219.0	1294.0	1376.2
26.5°	1117.7	1129.3	1132.8	1179.7	1255.5	1332.2
27°	1076.0	1081.6	1089.9	1137.6	1215.0	1288.1
27.5°	1033.6	1035.1	1047.1	1095.1	1172.9	1244.4
28°	992.3	989.5	1003.8	1051.0	1127.7	1201.1
28.5°	950.2	943.0	962.9	1007.0	1082.4	1157.4
29°	908.1	896.2	920.0	963.3	1034.4	1112.6
29.5°	866.0	852.5	878.3	922.0	990.3	1068.1
30°	824.3	809.6	835.4	879.9	944.2	1023.2
30.5°	781.8	767.1	792.9	839.0	901.3	978.4
31°	740.5	726.6	748.1	798.5	858.5	931.5
31.5°	698.8	688.5	705.2	760.4	816.8	885.5
32°	658.7	650.4	664.3	721.9	775.5	839.0
32.5°	618.6	613.5	625.0	683.3	736.2	792.5
33°	580.9	576.1	587.3	643.2	695.3	746.1
33.5°	543.2	538.4	551.1	603.9	653.6	700.0
34°	507.1	503.1	515.4	565.0	611.1	655.2
34.5°	472.5	468.9	481.2	525.7	570.2	612.3
35°	438.4	436.4	447.1	488.0	528.5	571.8
35.5°	405.0	405.4	415.7	451.5	488.0	532.9
36°	376.0	377.2	384.0	416.1	449.1	495.1
36.5°	347.4	349.0	353.4	382.0	412.2	458.2
37°	318.4	322.8	324.4	348.6	377.2	423.3
37.5°	289.9	297.0	297.0	316.1	343.9	390.3
38°	260.9	271.6	271.6	284.3	312.1	358.2
38.5°	237.4	248.2	247.0	254.1	281.5	327.2
39°	214.0	225.9	224.3	225.9	252.9	298.6
39.5°	192.2	204.9	202.9	199.3	225.9	271.2
40°	171.1	185.4	182.6	174.3	199.3	245.4
40.5°	152.9	166.4	163.2	152.9	175.9	221.2
41°	134.6	149.3	144.9	135.4	154.1	198.1
41.5°	118.7	135.0	131.0	121.9	135.0	177.5
42°	104.0	121.1	117.1	108.4	121.5	158.0
42.5°	91.3	107.2	103.6	95.3	108.0	140.2
43°	79.8	93.3	89.7	81.8	94.5	125.9
43.5°	69.5	79.4	75.8	72.3	81.0	112.0



TEST NUMBER: P776277

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	46.1	50.0	48.4	48.4	54.0	69.9
45.5°	40.5	42.1	40.9	42.1	47.3	60.0
46°	34.5	34.9	34.9	36.1	40.5	50.8
46.5°	29.0	29.0	29.4	31.0	34.5	42.5
47°	23.4	25.0	25.0	26.6	29.4	35.7
47.5°	21.4	22.6	22.6	23.8	25.8	29.8
48°	20.3	21.0	21.4	22.2	23.4	25.8
48.5°	19.5	20.3	20.3	21.0	21.8	23.4
49°	18.7	19.5	19.5	20.3	21.0	22.2
49.5°	17.5	18.3	18.7	19.1	20.3	21.0
50°	16.7	17.5	17.5	18.3	19.1	20.3
50.5°	15.5	16.3	16.7	17.1	18.3	19.1
51°	14.7	15.5	15.5	16.3	17.1	18.3
51.5°	13.9	14.7	14.7	15.1	16.3	17.1
52°	13.1	13.5	13.9	14.3	15.1	16.3
52.5°	12.3	12.7	13.1	13.5	14.3	15.1
53°	11.5	11.9	12.3	12.7	13.5	14.3
53.5°	11.1	11.5	11.5	11.9	12.7	13.5
54°	10.3	10.7	10.7	11.5	11.9	12.7
54.5°	9.9	9.9	10.3	10.7	11.1	11.9
55°	9.1	9.5	9.5	9.9	10.7	11.1
55.5°	8.7	9.1	9.1	9.5	9.9	10.3
56°	8.3	8.3	8.7	9.1	9.5	9.9
56.5°	7.5	7.9	7.9	8.3	8.7	9.1
57°	7.1	7.5	7.5	7.9	8.3	8.7
57.5°	6.8	7.1	7.1	7.5	7.9	7.9
58°	6.4	6.8	6.8	7.1	7.5	7.5
58.5°	6.4	6.4	6.4	6.8	7.1	7.1
59°	6.0	6.0	6.0	6.4	6.8	6.8
59.5°	5.6	5.6	6.0	6.0	6.4	6.4
60°	5.2	5.6	5.6	5.6	6.0	6.0
60.5°	4.8	5.2	5.2	5.2	5.6	5.6
61°	4.8	4.8	4.8	5.2	5.2	5.6
61.5°	4.4	4.4	4.8	4.8	4.8	5.2
62°	4.4	4.4	4.4	4.4	4.8	4.8
62.5°	4.0	4.0	4.0	4.4	4.4	4.4
63°	3.6	4.0	4.0	4.0	4.0	4.4
63.5°	3.6	3.6	3.6	4.0	4.0	4.0
64°	3.2	3.6	3.6	3.6	3.6	4.0
64.5°	3.2	3.2	3.2	3.2	3.6	3.6
65°	3.2	3.2	3.2	3.2	3.2	3.6
65.5°	2.8	2.8	2.8	3.2	3.2	3.2
66°	2.8	2.8	2.8	2.8	2.8	3.2



TEST NUMBER: P776277

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	2.4	2.4	2.4	2.4	2.4	2.4
68°	2.0	2.4	2.4	2.4	2.4	2.4
68.5°	2.0	2.0	2.0	2.0	2.0	2.4
69°	2.0	2.0	2.0	2.0	2.0	2.0
69.5°	1.6	2.0	2.0	2.0	2.0	2.0
70°	1.6	1.6	1.6	1.6	2.0	2.0
70.5°	1.6	1.6	1.6	1.6	1.6	1.6
71°	1.6	1.6	1.6	1.6	1.6	1.6
71.5°	1.6	1.6	1.6	1.6	1.6	1.6
72°	1.2	1.2	1.2	1.2	1.2	1.2
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°	1.2	1.2	1.2	1.2	1.2	1.2
74°	1.2	1.2	1.2	1.2	1.2	1.2
74.5°	0.8	0.8	0.8	0.8	0.8	0.8
75°	0.8	0.8	0.8	0.8	0.8	0.8
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	0.8	0.8	0.8	0.8
77.5°	0.4	0.8	0.8	0.8	0.4	0.4
78°	0.4	0.4	0.4	0.4	0.4	0.4
78.5°	0.4	0.4	0.4	0.4	0.4	0.4
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	0.0	0.0
82°	0.4	0.4	0.4	0.4	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
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: P776277

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMB-4000lm-3500K

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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Cooper Lighting Solutions Photometric Lab
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Scaled Data Report





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

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Scaled Data Report



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21.5°	1697.8	1756.6	1814.2	1828.5	1821.3	1815.8	1799.1	1763.4	1710.2	1657.3	1568.0
22°	1668.1	1732.0	1795.9	1809.8	1799.1	1794.7	1780.8	1741.5	1682.4	1623.6	1525.9



44°	98.1	120.7	157.6	171.1	170.3	159.2	147.3	129.8	106.8	79.8	60.0
44.5°	83.8	105.2	135.0	148.5	147.7	138.2	126.3	112.0	92.5	69.5	52.4



66.5°	2.8	2.8	3.2	3.2	3.2	3.2	3.2	3.2	2.8	2.8	2.4
67°	2.8	2.8	3.2	3.2	2.8	2.8	2.8	2.8	2.8	2.8	2.4



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°	1540.2	1548.6	1562.1	1592.6	1641.5	1697.8
22°	1499.3	1511.2	1521.9	1551.7	1603.7	1668.1



44°	60.4	68.7	65.5	63.5	71.1	98.1
44.5°	51.6	59.2	56.8	56.0	62.3	83.8



66.5°	2.4	2.8	2.8	2.8	2.8	2.8
67°	2.4	2.4	2.4	2.4	2.8	2.8

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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)