

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: NEO-RAY

Report Number: P333098

Luminaire Tested: **S124RDIW-S1195D470U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333098
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIW-S1195D470U835-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6445.5 lumens
Efficiency: N/A
Efficacy: 123.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

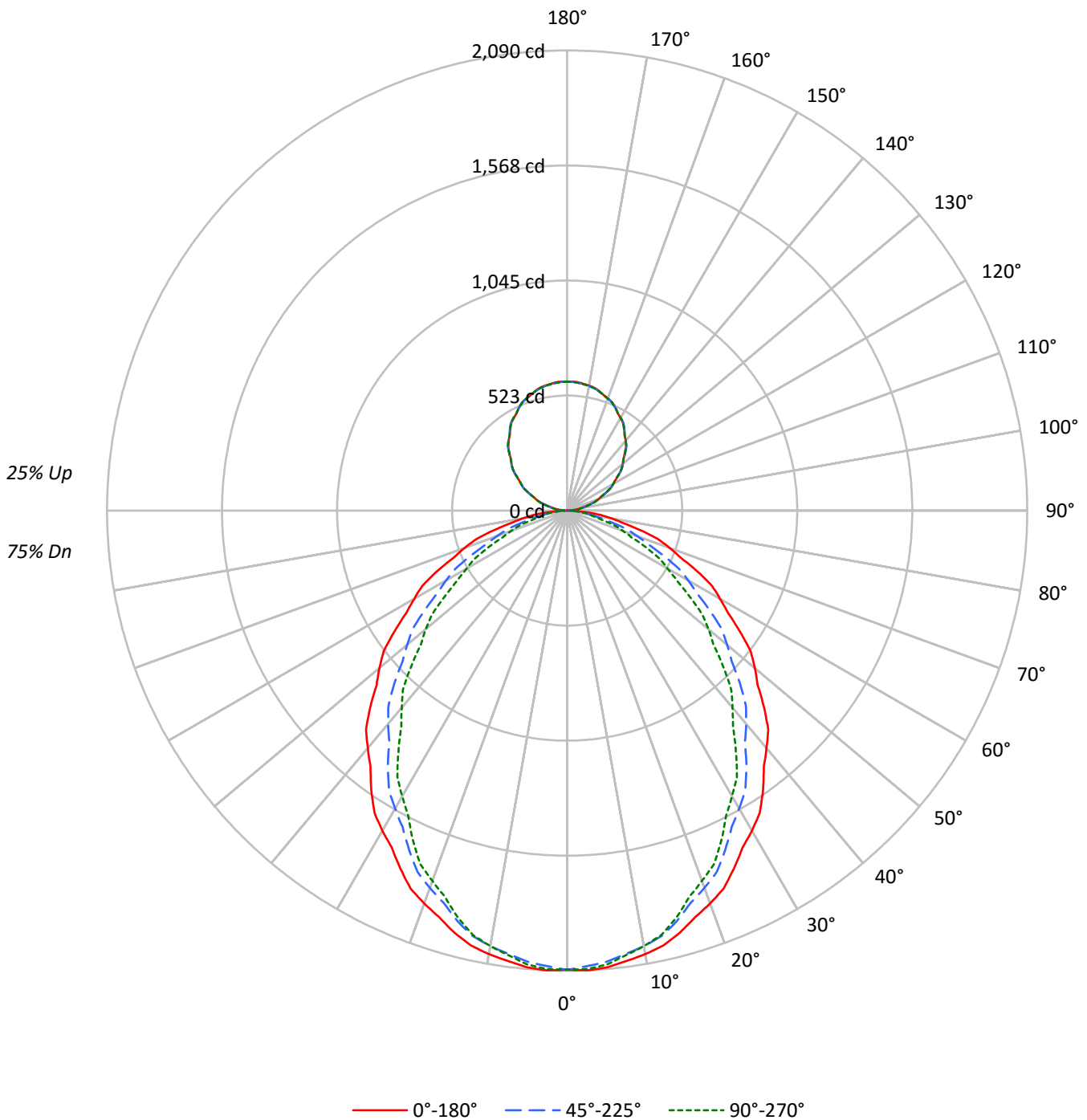
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0		
RCR																										
0	113	113	113	113	107	107	107	107	97	97	97	88	88	88	79	79	79	75					75			
1	104	99	96	92	99	95	91	88	86	83	81	78	76	74	70	69	68	64					64			
2	95	87	81	76	90	83	78	73	76	71	68	69	65	62	62	60	57	54					54			
3	87	77	70	64	82	74	67	62	67	62	57	61	57	53	56	52	49	46					46			
4	80	69	61	54	76	66	58	53	60	54	49	55	50	46	50	46	43	40					40			
5	73	61	53	47	70	59	51	46	54	48	43	49	44	40	45	41	38	35					35			
6	68	55	47	41	64	53	46	40	49	43	38	45	40	35	41	37	33	31					31			
7	63	50	42	36	60	48	41	35	45	38	34	41	36	32	38	33	30	27					27			
8	59	46	38	33	56	44	37	32	41	35	30	38	32	28	35	30	27	25					25			
9	55	42	34	29	52	41	33	29	38	31	27	35	29	26	32	28	24	22					22			
10	51	39	31	26	49	37	31	26	35	29	25	32	27	23	30	25	22	20					20			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16835	16835	16835
5°	16874	16667	16771
10°	16768	16467	16467
15°	16575	16121	16002
20°	16311	15667	15378
25°	15973	15134	14750
30°	15645	14573	13962
35°	15281	13991	13172
40°	14842	13328	12318
45°	14439	12670	11449
50°	13978	11912	10528
55°	13485	11125	9529
60°	12943	10261	8507
65°	12445	9181	7503
70°	11722	7990	6371
75°	10808	6625	5181
80°	9428	5049	4751
85°	7984	4585	4289



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.9	3.0
10°-20°	546.3	8.5
20°-30°	788.8	12.2
30°-40°	894.2	13.9
40°-50°	863.5	13.4
50°-60°	718.0	11.1
60°-70°	495.8	7.7
70°-80°	251.3	3.9
80°-90°	66.2	1.0
90°-100°	38.6	0.6
100°-110°	114.5	1.8
110°-120°	194.3	3.0
120°-130°	256.2	4.0
130°-140°	287.7	4.5
140°-150°	282.7	4.4
150°-160°	237.8	3.7
160°-170°	158.2	2.5
170°-180°	55.4	0.9
0°-30°	1531.0	23.8
0°-40°	2425.2	37.6
0°-60°	4006.7	62.2
0°-90°	4820.0	74.8
90°-120°	347.4	5.4
90°-150°	1174.1	18.2
90°-180°	1626.0	25.2
0°-180°	6445.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2085	2085	2085	2085	2085	
5°	2082	2075	2057	2072	2070	197
15°	1983	1967	1929	1925	1915	559
25°	1793	1762	1699	1672	1656	826
35°	1550	1498	1420	1367	1336	968
45°	1265	1204	1110	1034	1003	975
55°	958	892	790	710	677	857
65°	652	581	481	415	393	643
75°	346	287	212	177	166	366
85°	86	56	50	46	46	97
90°	1	6	10	13	14	6
95°	27	31	34	36	36	30
105°	106	106	108	109	111	112
115°	198	198	197	196	196	195
125°	288	288	287	286	286	256
135°	371	374	374	373	372	287
145°	451	453	453	453	451	282
155°	517	517	516	518	516	238
165°	562	561	560	563	561	158
175°	585	583	582	585	582	56
180°	586	586	586	586	586	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4
2.5°	2090.5	2089.4	2088.3	2087.1	2086.0	2083.9	2080.8	2077.6	2074.5	2071.4	2074.5
5°	2082.2	2080.8	2079.4	2078.0	2076.6	2073.7	2069.5	2065.2	2061.0	2056.7	2060.2
7.5°	2063.4	2061.9	2060.4	2058.9	2057.4	2053.9	2048.4	2042.9	2037.3	2031.8	2034.1
10°	2045.5	2043.7	2042.0	2040.2	2038.4	2034.3	2028.0	2021.6	2015.2	2008.8	2010.2
12.5°	2022.5	2020.5	2018.4	2016.3	2014.3	2009.5	2002.0	1994.5	1986.9	1979.4	1980.3
15°	1983.2	1980.0	1976.9	1973.7	1970.5	1964.4	1955.6	1946.7	1937.8	1928.9	1928.2
17.5°	1935.7	1931.0	1926.4	1921.8	1917.2	1909.6	1898.9	1888.3	1877.6	1867.0	1865.0
20°	1898.6	1894.0	1889.4	1884.8	1880.2	1871.8	1859.8	1847.7	1835.6	1823.6	1820.7
22.5°	1857.7	1852.6	1847.4	1842.2	1837.0	1828.0	1815.0	1802.1	1789.2	1776.3	1772.0
25°	1793.2	1786.8	1780.4	1774.1	1767.7	1757.2	1742.7	1728.1	1713.6	1699.0	1693.0
27.5°	1725.5	1717.5	1709.5	1701.5	1693.4	1681.7	1666.1	1650.6	1635.0	1619.5	1612.0
30°	1678.3	1669.4	1660.5	1651.6	1642.8	1630.0	1613.3	1596.6	1580.0	1563.3	1554.4
32.5°	1628.4	1618.4	1608.4	1598.4	1588.4	1574.8	1557.5	1540.3	1523.0	1505.8	1495.5
35°	1550.5	1539.1	1527.8	1516.4	1505.1	1490.5	1472.8	1455.1	1437.3	1419.6	1407.5
37.5°	1467.2	1455.4	1443.7	1432.0	1420.3	1404.6	1385.0	1365.3	1345.7	1326.0	1312.5
40°	1408.4	1396.7	1385.0	1373.3	1361.5	1345.6	1325.4	1305.1	1284.9	1264.7	1249.8
42.5°	1352.2	1339.9	1327.6	1315.3	1303.1	1286.4	1265.3	1244.2	1223.2	1202.1	1186.9
45°	1264.7	1251.5	1238.4	1225.3	1212.2	1194.9	1173.7	1152.4	1131.1	1109.8	1092.4
47.5°	1174.3	1160.7	1147.2	1133.6	1120.1	1102.2	1080.1	1057.9	1035.8	1013.7	995.6
50°	1113.0	1099.1	1085.3	1071.5	1057.6	1039.3	1016.6	993.9	971.2	948.5	930.8
52.5°	1050.4	1036.8	1023.3	1009.7	996.2	977.7	954.5	931.2	907.9	884.6	866.6
55°	958.1	943.9	929.7	915.5	901.3	882.7	859.6	836.6	813.5	790.4	772.0
57.5°	866.7	852.0	837.2	822.5	807.7	789.0	766.3	743.5	720.8	698.1	679.4
60°	801.6	787.4	773.2	759.0	744.8	726.4	703.7	681.0	658.2	635.5	617.1
62.5°	742.8	728.1	713.3	698.6	683.8	664.8	641.5	618.2	594.9	571.7	554.6
65°	651.5	636.2	621.0	605.7	590.5	571.5	548.8	526.1	503.4	480.6	465.4
67.5°	556.6	542.0	527.4	512.8	498.2	480.3	459.2	438.2	417.1	396.0	382.9
70°	496.6	481.7	466.8	451.9	437.0	419.4	399.2	379.0	358.8	338.5	326.8
72.5°	432.7	419.3	405.8	392.3	378.8	362.5	343.4	324.3	305.2	286.1	276.1
75°	346.5	333.4	320.2	307.1	294.0	279.1	262.4	245.7	229.1	212.4	204.2
77.5°	259.0	247.9	236.7	225.6	214.4	202.1	188.6	175.2	161.7	148.2	143.4
80°	202.8	192.5	182.2	171.9	161.6	151.2	140.5	129.9	119.2	108.6	107.5
82.5°	154.3	144.8	135.4	125.9	116.5	108.7	102.6	96.5	90.4	84.3	83.5
85°	86.2	79.1	72.0	64.9	57.8	53.8	52.7	51.6	50.6	49.5	48.8
87.5°	29.7	27.6	25.6	23.5	21.5	20.4	20.2	20.1	20.0	19.9	19.7
90°	1.4	2.5	3.6	4.7	5.8	6.7	7.6	8.4	9.2	10.0	10.6
92.5°	9.7	11.0	12.2	13.5	14.8	15.7	16.3	16.8	17.4	17.9	18.3
95°	27.2	28.1	29.0	29.9	30.8	31.6	32.3	33.0	33.7	34.4	34.7
97.5°	47.5	48.2	48.9	49.7	50.4	51.2	52.0	52.8	53.6	54.5	54.8
100°	63.4	63.8	64.2	64.6	65.1	65.7	66.6	67.5	68.4	69.3	69.5
102.5°	80.1	80.3	80.4	80.6	80.8	81.3	82.1	82.9	83.7	84.6	84.8
105°	105.6	105.7	105.8	105.9	106.0	106.2	106.6	107.0	107.4	107.8	108.1
107.5°	132.3	132.4	132.6	132.7	132.8	132.9	133.0	133.0	133.1	133.1	133.4
110°	150.4	150.6	150.8	151.0	151.2	151.3	151.2	151.1	151.0	150.9	150.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	169.3	169.3	169.4	169.4	169.5	169.4	169.2	169.0	168.8	168.7	168.6
115°	197.6	197.6	197.6	197.6	197.6	197.5	197.3	197.1	196.9	196.7	196.6
117.5°	224.2	224.3	224.4	224.5	224.5	224.5	224.4	224.2	224.1	223.9	223.6
120°	242.0	242.4	242.8	243.2	243.6	243.6	243.3	243.0	242.7	242.4	241.9
122.5°	260.5	260.6	260.8	260.9	261.1	261.1	261.0	260.8	260.7	260.6	260.2
125°	287.7	287.7	287.7	287.7	287.7	287.7	287.6	287.5	287.4	287.3	287.1
127.5°	312.5	312.8	313.1	313.4	313.7	313.8	313.6	313.4	313.3	313.1	312.9
130°	329.9	330.2	330.5	330.8	331.1	331.2	331.2	331.2	331.2	331.2	331.0
132.5°	347.6	347.9	348.1	348.3	348.5	348.6	348.5	348.4	348.4	348.3	348.1
135°	371.1	371.7	372.3	372.9	373.5	373.8	373.8	373.8	373.8	373.8	373.6
137.5°	396.7	397.0	397.2	397.5	397.8	398.0	398.2	398.4	398.5	398.7	398.4
140°	413.7	413.9	414.1	414.3	414.5	414.6	414.6	414.6	414.6	414.6	414.5
142.5°	429.3	429.5	429.7	429.9	430.1	430.2	430.1	430.0	429.9	429.8	429.8
145°	450.9	451.3	451.7	452.1	452.5	452.7	452.8	452.9	453.0	453.1	453.0
147.5°	472.3	472.7	473.2	473.7	474.2	474.4	474.3	474.2	474.2	474.1	474.0
150°	485.3	485.7	486.1	486.5	486.9	487.1	487.1	487.1	487.1	487.1	487.1
152.5°	497.6	497.9	498.1	498.4	498.6	498.8	498.8	498.9	499.0	499.1	499.3
155°	516.6	516.6	516.6	516.6	516.6	516.5	516.4	516.3	516.2	516.1	516.5
157.5°	532.5	532.3	532.2	532.0	531.8	531.7	531.7	531.7	531.6	531.6	531.9
160°	542.0	541.9	541.8	541.7	541.6	541.5	541.4	541.3	541.2	541.1	541.4
162.5°	550.7	550.4	550.1	549.9	549.6	549.4	549.3	549.2	549.1	549.0	549.6
165°	562.3	562.0	561.7	561.4	561.1	560.9	560.7	560.5	560.3	560.1	560.7
167.5°	571.3	570.9	570.5	570.1	569.6	569.4	569.4	569.5	569.5	569.5	570.1
170°	576.4	575.9	575.4	574.9	574.4	574.2	574.3	574.4	574.5	574.6	575.2
172.5°	580.0	579.6	579.2	578.8	578.3	578.1	578.1	578.2	578.2	578.2	578.9
175°	585.0	584.5	584.0	583.5	583.0	582.7	582.6	582.5	582.4	582.3	583.0
177.5°	586.6	586.2	585.8	585.4	585.0	584.8	584.8	584.8	584.8	584.8	585.4
180°	585.9	585.9	585.9	585.9	585.9	585.9	585.9	585.9	585.9	585.9	585.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4
2.5°	2077.6	2080.8	2083.9	2085.3	2085.0	2084.7	2084.4	2084.2
5°	2063.8	2067.3	2070.9	2072.3	2071.6	2070.9	2070.2	2069.5
7.5°	2036.3	2038.6	2040.9	2041.4	2040.3	2039.2	2038.0	2036.9
10°	2011.6	2013.0	2014.5	2014.5	2013.0	2011.6	2010.2	2008.8
12.5°	1981.1	1982.0	1982.8	1982.2	1980.3	1978.3	1976.3	1974.3
15°	1927.5	1926.8	1926.1	1924.5	1922.0	1919.5	1917.1	1914.6
17.5°	1863.0	1861.0	1859.0	1856.2	1852.4	1848.6	1844.9	1841.1
20°	1817.9	1815.0	1812.2	1808.5	1803.9	1799.3	1794.6	1790.0
22.5°	1767.8	1763.5	1759.3	1755.3	1751.5	1747.7	1744.0	1740.2
25°	1686.9	1680.9	1674.9	1670.1	1666.5	1663.0	1659.4	1655.9
27.5°	1604.6	1597.1	1589.7	1583.4	1578.3	1573.2	1568.1	1563.0
30°	1545.5	1536.7	1527.8	1520.5	1514.8	1509.2	1503.5	1497.8
32.5°	1485.2	1474.9	1464.6	1456.8	1451.4	1446.0	1440.6	1435.2
35°	1395.4	1383.4	1371.3	1362.1	1355.7	1349.3	1342.9	1336.5
37.5°	1299.0	1285.5	1272.1	1262.1	1255.7	1249.3	1243.0	1236.6
40°	1234.9	1220.0	1205.1	1194.4	1188.0	1181.6	1175.3	1168.9
42.5°	1171.7	1156.5	1141.3	1130.4	1123.7	1117.1	1110.4	1103.7
45°	1075.0	1057.6	1040.2	1028.3	1022.0	1015.6	1009.2	1002.8
47.5°	977.6	959.6	941.6	929.0	922.0	915.0	907.9	900.9
50°	913.0	895.3	877.5	865.3	858.6	851.8	845.1	838.3
52.5°	848.6	830.6	812.5	800.0	793.0	786.0	778.9	771.9
55°	753.5	735.1	716.6	704.0	697.3	690.5	683.8	677.0
57.5°	660.7	641.9	623.2	611.3	606.2	601.0	595.9	590.8
60°	598.6	580.2	561.7	549.7	544.0	538.3	532.6	526.9
62.5°	537.6	520.6	503.5	492.7	488.2	483.7	479.1	474.6
65°	450.1	434.9	419.6	409.8	405.6	401.3	397.1	392.8
67.5°	369.8	356.6	343.5	334.6	329.9	325.2	320.5	315.8
70°	315.1	303.4	291.7	284.1	280.5	277.0	273.4	269.9
72.5°	266.1	256.1	246.1	239.5	236.2	233.0	229.7	226.4
75°	196.1	187.9	179.7	174.6	172.5	170.3	168.2	166.1
77.5°	138.7	133.9	129.2	126.5	125.8	125.2	124.6	123.9
80°	106.5	105.4	104.3	103.6	103.3	102.9	102.6	102.2
82.5°	82.8	82.0	81.2	80.6	80.3	79.9	79.6	79.2
85°	48.1	47.4	46.7	46.3	46.3	46.3	46.3	46.3
87.5°	19.6	19.4	19.2	19.3	19.6	20.0	20.3	20.6
90°	11.2	11.8	12.4	12.8	13.0	13.2	13.4	13.6
92.5°	18.7	19.0	19.4	19.6	19.8	19.9	20.0	20.1
95°	35.0	35.3	35.6	35.8	35.8	35.8	35.8	35.8
97.5°	55.2	55.6	55.9	56.1	56.1	56.1	56.1	56.1
100°	69.7	69.9	70.1	70.2	70.2	70.2	70.2	70.2
102.5°	85.1	85.4	85.7	85.9	85.9	86.0	86.1	86.2
105°	108.5	108.8	109.1	109.4	109.7	110.0	110.3	110.6
107.5°	133.7	134.0	134.3	134.4	134.4	134.4	134.3	134.3
110°	150.5	150.3	150.1	150.1	150.4	150.7	151.0	151.3



TEST NUMBER: P333098

CATALOG NUMBER: S124RDIW-S1195D470U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	168.6	168.5	168.5	168.5	168.6	168.6	168.7	168.7
115°	196.5	196.4	196.3	196.2	196.1	196.0	195.9	195.8
117.5°	223.3	222.9	222.6	222.3	222.1	221.9	221.7	221.5
120°	241.4	240.9	240.4	240.3	240.5	240.7	240.9	241.1
122.5°	259.9	259.5	259.2	258.8	258.5	258.1	257.7	257.4
125°	286.9	286.7	286.5	286.3	286.1	285.9	285.7	285.5
127.5°	312.7	312.5	312.3	312.1	312.0	311.8	311.7	311.5
130°	330.8	330.6	330.4	330.1	329.7	329.3	328.9	328.5
132.5°	347.9	347.7	347.5	347.3	347.1	347.0	346.8	346.7
135°	373.4	373.2	373.0	372.8	372.5	372.2	371.9	371.6
137.5°	398.1	397.9	397.6	397.5	397.6	397.6	397.7	397.8
140°	414.4	414.3	414.2	414.1	414.0	413.9	413.8	413.7
142.5°	429.8	429.8	429.8	429.7	429.7	429.7	429.7	429.7
145°	452.9	452.8	452.7	452.5	452.2	451.9	451.6	451.3
147.5°	473.9	473.8	473.8	473.7	473.6	473.5	473.4	473.3
150°	487.1	487.1	487.1	487.1	487.0	486.9	486.8	486.7
152.5°	499.6	499.8	500.1	500.0	499.8	499.5	499.3	499.0
155°	516.9	517.3	517.7	517.7	517.3	516.9	516.5	516.1
157.5°	532.2	532.5	532.8	532.8	532.5	532.1	531.8	531.4
160°	541.7	542.0	542.3	542.2	541.7	541.2	540.6	540.1
162.5°	550.1	550.7	551.2	551.2	550.7	550.2	549.7	549.2
165°	561.3	561.9	562.5	562.6	562.2	561.8	561.4	561.0
167.5°	570.7	571.3	571.9	571.9	571.3	570.7	570.0	569.4
170°	575.8	576.4	577.0	576.9	576.2	575.5	574.8	574.1
172.5°	579.6	580.3	580.9	580.9	580.2	579.5	578.8	578.1
175°	583.7	584.4	585.1	585.1	584.4	583.7	583.0	582.3
177.5°	586.0	586.5	587.1	587.0	586.4	585.8	585.1	584.5
180°	585.9	585.9	585.9	585.9	585.9	585.9	585.9	585.9

(END OF REPORT)