

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: P331493

Luminaire Tested: **S122DIW-S290D1440U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331493
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S290D1440U835-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1440 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6966.9 lumens
Efficiency: N/A
Efficacy: 130.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

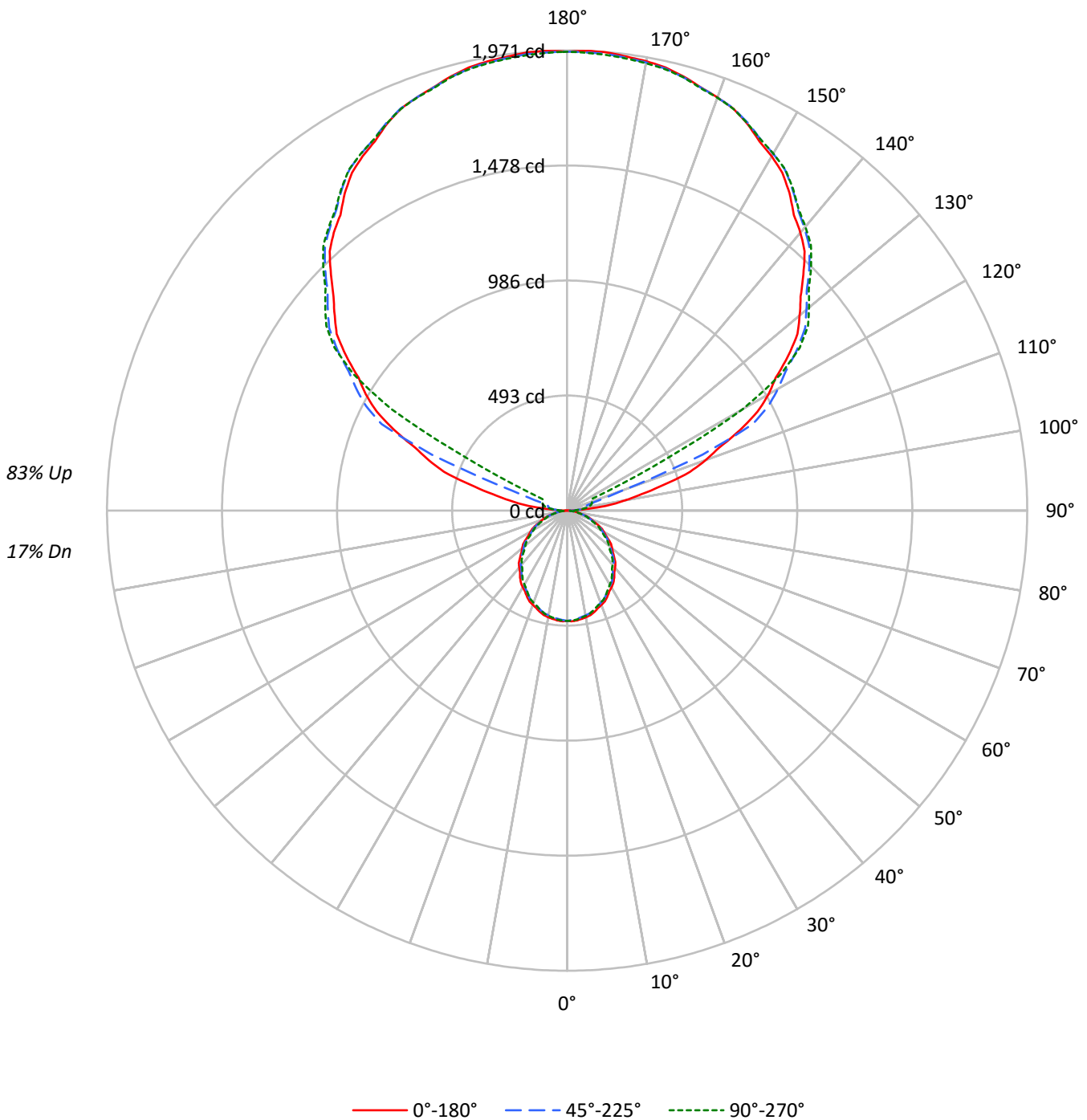
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0																			
RCR																																														
0	99	99	99	99	87	87	87	87	65	65	65	45	45	45	26	26	26	17																												
1	90	86	83	79	79	76	73	70	57	55	53	39	38	37	23	22	22	15																												
2	82	75	70	65	72	66	62	58	50	47	44	34	33	31	20	19	18	12																												
3	75	66	59	54	66	58	53	48	44	40	37	30	28	26	18	17	16	10																												
4	68	58	51	45	60	52	45	40	39	35	31	27	24	22	16	15	13	9																												
5	63	52	44	38	55	46	39	34	35	30	27	24	21	19	14	13	12	8																												
6	58	46	39	33	50	41	34	30	31	26	23	22	19	17	13	11	10	7																												
7	53	41	34	29	47	37	30	26	28	23	20	20	17	15	12	10	9	6																												
8	49	37	30	25	43	33	27	23	25	21	18	18	15	13	11	9	8	5																												
9	46	34	27	22	40	30	24	20	23	19	16	16	13	11	10	8	7	5																												
10	42	31	24	20	37	28	22	18	21	17	14	15	12	10	9	8	7	4																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7627	7627	7627
5°	7656	7546	7592
10°	7612	7470	7507
15°	7517	7373	7366
20°	7383	7228	7220
25°	7251	7049	7049
30°	7081	6885	6825
35°	6922	6688	6589
40°	6721	6492	6367
45°	6524	6295	6140
50°	6310	6094	5878
55°	6086	5858	5638
60°	5838	5574	5370
65°	5570	5295	5051
70°	5231	4952	4716
75°	4760	4560	4448
80°	4221	4100	3887
85°	3446	3279	2946



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.4	0.6
10°-20°	125.0	1.8
20°-30°	183.7	2.6
30°-40°	213.4	3.1
40°-50°	213.2	3.1
50°-60°	185.9	2.7
60°-70°	137.5	2.0
70°-80°	77.9	1.1
80°-90°	25.8	0.4
90°-100°	65.6	0.9
100°-110°	240.4	3.5
110°-120°	642.7	9.2
120°-130°	1060.9	15.2
130°-140°	1128.3	16.2
140°-150°	1048.7	15.1
150°-160°	843.1	12.1
160°-170°	543.3	7.8
170°-180°	187.0	2.7
0°-30°	353.2	5.1
0°-40°	566.6	8.1
0°-60°	965.7	13.9
0°-90°	1206.8	17.3
90°-120°	948.7	13.6
90°-150°	4186.6	60.1
90°-180°	5760.0	82.7
0°-180°	6966.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	472	472	472	472	472	
5°	472	470	466	469	468	45
15°	450	447	441	443	441	127
25°	407	403	396	396	396	187
35°	351	346	339	337	334	219
45°	286	282	276	271	269	220
55°	216	213	208	203	200	193
65°	146	143	139	135	132	144
75°	76	75	73	71	71	82
85°	19	18	18	16	16	21
90°	1	17	28	35	38	5
95°	92	49	56	62	61	113
105°	432	451	87	102	108	462
115°	818	843	878	250	117	805
125°	1156	1175	1202	1211	1216	1031
135°	1431	1453	1466	1480	1478	1105
145°	1660	1660	1682	1692	1685	1038
155°	1828	1816	1832	1839	1829	842
165°	1926	1918	1921	1930	1921	544
175°	1970	1961	1963	1971	1958	187
180°	1966	1966	1966	1966	1966	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4
2.5°	474.6	474.2	473.8	473.4	473.0	472.4	471.5	470.6	469.7	468.8	469.6
5°	472.4	472.0	471.6	471.2	470.8	470.1	469.0	467.9	466.7	465.6	466.4
7.5°	468.3	467.6	467.0	466.4	465.8	464.9	463.8	462.6	461.5	460.4	461.2
10°	464.3	463.6	462.9	462.2	461.4	460.5	459.3	458.1	456.9	455.6	456.4
12.5°	458.8	458.2	457.6	456.9	456.3	455.4	454.2	453.0	451.8	450.6	451.1
15°	449.7	449.1	448.5	447.9	447.3	446.4	445.0	443.7	442.4	441.1	441.5
17.5°	438.1	437.5	436.9	436.3	435.7	434.7	433.4	432.0	430.7	429.4	429.8
20°	429.7	429.1	428.5	427.9	427.3	426.3	424.9	423.5	422.1	420.7	421.0
22.5°	421.4	420.5	419.7	418.8	418.0	416.9	415.6	414.2	412.9	411.6	411.6
25°	407.0	406.2	405.4	404.6	403.8	402.5	400.8	399.1	397.4	395.7	395.9
27.5°	390.7	390.0	389.2	388.5	387.8	386.7	385.4	384.0	382.7	381.3	381.0
30°	379.8	379.0	378.2	377.4	376.5	375.4	373.9	372.4	370.8	369.3	369.0
32.5°	368.1	367.5	366.9	366.2	365.6	364.4	362.8	361.3	359.7	358.1	357.5
35°	351.2	350.1	349.1	348.1	347.1	345.8	344.2	342.6	341.0	339.3	338.7
37.5°	332.0	331.1	330.2	329.3	328.4	327.2	325.6	324.0	322.3	320.7	320.0
40°	318.9	318.1	317.3	316.5	315.7	314.5	312.8	311.2	309.6	308.0	307.1
42.5°	306.2	305.4	304.6	303.8	303.0	301.7	300.1	298.5	296.9	295.3	294.3
45°	285.7	285.0	284.3	283.6	282.9	281.8	280.3	278.8	277.3	275.7	274.6
47.5°	265.4	264.7	264.1	263.4	262.7	261.6	260.0	258.5	256.9	255.3	254.1
50°	251.2	250.7	250.2	249.7	249.2	248.2	246.8	245.4	244.0	242.6	241.2
52.5°	237.4	236.7	236.1	235.4	234.7	233.7	232.4	231.1	229.7	228.4	227.2
55°	216.2	215.6	215.0	214.4	213.8	212.9	211.7	210.5	209.3	208.1	206.8
57.5°	195.0	194.5	194.0	193.5	193.0	192.1	190.8	189.5	188.1	186.8	185.6
60°	180.8	180.4	180.0	179.6	179.2	178.3	176.9	175.5	174.0	172.6	171.5
62.5°	167.0	166.3	165.7	165.1	164.4	163.5	162.4	161.4	160.3	159.2	158.1
65°	145.8	145.2	144.6	144.0	143.4	142.6	141.6	140.6	139.6	138.6	137.6
67.5°	124.3	123.8	123.3	122.8	122.4	121.7	120.7	119.8	118.9	118.0	117.3
70°	110.8	110.4	110.0	109.6	109.2	108.6	107.7	106.8	105.8	104.9	104.2
72.5°	97.0	96.6	96.2	95.8	95.4	94.9	94.3	93.8	93.2	92.6	91.9
75°	76.3	76.1	75.9	75.7	75.5	75.2	74.7	74.1	73.6	73.1	72.5
77.5°	57.8	57.4	57.1	56.8	56.4	56.1	55.9	55.7	55.5	55.3	55.0
80°	45.4	45.3	45.2	45.1	45.0	44.9	44.7	44.5	44.3	44.1	43.8
82.5°	33.8	33.8	33.8	33.7	33.7	33.6	33.5	33.4	33.3	33.2	32.8
85°	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9	17.8	17.7	17.4
87.5°	6.8	7.4	7.9	8.4	9.0	9.4	9.7	10.1	10.4	10.8	10.9
90°	1.4	4.9	8.4	11.9	15.3	18.3	20.9	23.4	25.9	28.4	30.0
92.5°	28.7	28.4	28.1	27.8	27.5	27.9	29.2	30.5	31.7	33.0	33.8
95°	92.4	82.0	71.6	61.2	50.7	46.6	48.8	51.0	53.3	55.5	57.0
97.5°	183.5	154.1	124.7	95.3	65.9	53.8	58.9	64.0	69.1	74.2	75.5
100°	251.7	208.4	165.1	121.8	78.5	59.6	64.9	70.3	75.7	81.1	83.6
102.5°	326.8	317.7	308.5	299.3	290.2	263.1	218.2	173.2	128.3	83.3	86.6
105°	432.4	441.8	451.3	460.8	470.3	431.9	345.6	259.3	173.0	86.8	90.2
107.5°	552.7	560.3	568.0	575.6	583.3	535.4	431.9	328.4	224.9	121.5	117.9
110°	630.1	636.7	643.3	650.0	656.6	614.2	522.9	431.6	340.2	248.9	217.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	702.9	708.7	714.6	720.5	726.4	718.0	695.5	672.9	650.3	627.8	512.5
115°	817.8	823.2	828.5	833.9	839.3	845.9	853.8	861.7	869.6	877.5	731.2
117.5°	920.5	926.5	932.5	938.5	944.5	950.2	955.6	961.1	966.5	972.0	936.6
120°	995.6	1000.3	1005.0	1009.8	1014.5	1019.7	1025.4	1031.1	1036.8	1042.5	1046.3
122.5°	1059.3	1064.3	1069.3	1074.3	1079.3	1084.9	1091.0	1097.2	1103.4	1109.6	1111.9
125°	1156.3	1160.4	1164.5	1168.6	1172.7	1177.8	1183.8	1189.8	1195.8	1201.8	1204.0
127.5°	1244.2	1248.7	1253.3	1257.8	1262.4	1266.9	1271.4	1275.9	1280.4	1284.9	1288.1
130°	1299.9	1305.0	1310.0	1315.1	1320.2	1324.4	1327.9	1331.4	1334.8	1338.3	1341.8
132.5°	1356.8	1361.1	1365.4	1369.7	1374.0	1377.9	1381.4	1384.8	1388.3	1391.8	1394.8
135°	1430.8	1435.8	1440.9	1445.9	1451.0	1454.9	1457.8	1460.6	1463.5	1466.3	1469.5
137.5°	1505.6	1509.1	1512.7	1516.2	1519.7	1523.1	1526.3	1529.6	1532.8	1536.0	1539.1
140°	1554.5	1557.0	1559.6	1562.1	1564.6	1567.6	1571.1	1574.6	1578.1	1581.5	1584.4
142.5°	1595.5	1597.7	1600.0	1602.3	1604.6	1607.7	1611.7	1615.7	1619.6	1623.6	1626.2
145°	1659.8	1659.4	1659.1	1658.8	1658.5	1661.0	1666.4	1671.8	1677.1	1682.5	1684.7
147.5°	1715.8	1714.6	1713.4	1712.2	1711.0	1713.0	1718.3	1723.7	1729.0	1734.3	1735.9
150°	1752.2	1750.0	1747.8	1745.6	1743.3	1744.8	1749.8	1754.9	1759.9	1765.0	1766.9
152.5°	1782.9	1780.5	1778.0	1775.5	1773.1	1774.2	1779.0	1783.8	1788.6	1793.4	1795.3
155°	1827.6	1824.7	1821.9	1819.0	1816.2	1816.7	1820.5	1824.3	1828.1	1831.8	1833.7
157.5°	1862.6	1860.2	1857.8	1855.4	1853.0	1853.1	1855.7	1858.4	1861.0	1863.7	1865.9
160°	1883.0	1881.1	1879.3	1877.4	1875.5	1875.5	1877.4	1879.3	1881.1	1883.0	1884.9
162.5°	1901.2	1899.4	1897.5	1895.6	1893.7	1893.5	1895.2	1896.8	1898.5	1900.1	1902.3
165°	1925.7	1923.8	1921.9	1920.0	1918.1	1917.7	1918.6	1919.5	1920.5	1921.4	1923.7
167.5°	1943.9	1942.0	1940.1	1938.2	1936.3	1935.8	1936.7	1937.6	1938.5	1939.4	1941.6
170°	1954.2	1952.3	1950.4	1948.5	1946.6	1945.9	1946.6	1947.2	1947.8	1948.5	1950.7
172.5°	1961.0	1959.1	1957.2	1955.3	1953.4	1952.8	1953.4	1954.0	1954.7	1955.3	1957.5
175°	1969.8	1967.6	1965.4	1963.2	1961.0	1960.2	1960.8	1961.4	1962.1	1962.7	1964.9
177.5°	1971.2	1969.5	1967.7	1965.9	1964.1	1963.4	1963.6	1963.9	1964.1	1964.4	1966.2
180°	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4
2.5°	470.4	471.2	472.0	472.4	472.2	472.0	471.9	471.7
5°	467.3	468.1	468.9	469.2	469.0	468.8	468.6	468.4
7.5°	462.0	462.8	463.6	463.9	463.7	463.4	463.2	463.0
10°	457.3	458.1	458.9	459.1	458.8	458.5	458.2	457.9
12.5°	451.7	452.2	452.8	453.0	452.8	452.5	452.3	452.1
15°	441.9	442.3	442.7	442.7	442.2	441.7	441.2	440.7
17.5°	430.3	430.8	431.2	431.2	430.7	430.3	429.8	429.3
20°	421.3	421.6	421.9	421.8	421.4	421.0	420.6	420.2
22.5°	411.7	411.8	411.8	411.7	411.5	411.2	411.0	410.8
25°	396.1	396.3	396.5	396.5	396.3	396.1	395.9	395.7
27.5°	380.7	380.4	380.1	379.7	379.2	378.7	378.3	377.8
30°	368.7	368.4	368.1	367.8	367.4	367.0	366.6	366.1
32.5°	357.0	356.4	355.9	355.4	355.0	354.6	354.2	353.8
35°	338.1	337.5	336.9	336.4	335.9	335.4	334.9	334.3
37.5°	319.2	318.5	317.7	317.1	316.6	316.1	315.7	315.2
40°	306.2	305.3	304.4	303.7	303.3	302.9	302.5	302.1
42.5°	293.3	292.3	291.3	290.5	290.0	289.4	288.9	288.3
45°	273.5	272.4	271.3	270.5	270.1	269.7	269.3	268.9
47.5°	253.0	251.8	250.6	249.7	249.2	248.6	248.0	247.4
50°	239.8	238.3	236.9	236.0	235.5	235.0	234.5	234.0
52.5°	226.1	224.9	223.7	222.8	222.1	221.5	220.8	220.1
55°	205.6	204.4	203.2	202.4	201.9	201.3	200.8	200.3
57.5°	184.4	183.2	182.0	181.2	180.9	180.5	180.1	179.7
60°	170.4	169.3	168.2	167.5	167.2	166.9	166.6	166.3
62.5°	157.1	156.1	155.1	154.4	154.0	153.6	153.2	152.8
65°	136.7	135.8	134.9	134.2	133.7	133.2	132.7	132.2
67.5°	116.6	115.9	115.2	114.6	114.2	113.8	113.4	113.0
70°	103.5	102.8	102.1	101.6	101.2	100.7	100.3	99.9
72.5°	91.2	90.5	89.8	89.2	88.9	88.6	88.3	87.9
75°	71.9	71.3	70.7	70.5	70.7	70.9	71.1	71.3
77.5°	54.7	54.4	54.1	53.8	53.5	53.3	53.0	52.7
80°	43.5	43.2	42.9	42.6	42.4	42.2	42.0	41.8
82.5°	32.4	32.0	31.6	31.4	31.4	31.3	31.3	31.3
85°	17.1	16.8	16.5	16.3	16.2	16.1	16.0	15.9
87.5°	10.9	11.0	11.1	11.1	11.2	11.2	11.3	11.3
90°	31.6	33.2	34.8	35.9	36.5	37.1	37.8	38.4
92.5°	34.6	35.5	36.3	36.9	37.3	37.6	38.0	38.4
95°	58.6	60.2	61.8	62.4	62.1	61.8	61.5	61.2
97.5°	76.8	78.0	79.3	80.1	80.5	80.9	81.3	81.6
100°	86.1	88.7	91.2	92.8	93.4	94.0	94.7	95.3
102.5°	89.9	93.2	96.5	98.6	99.5	100.3	101.2	102.1
105°	93.7	97.2	100.7	103.0	104.3	105.6	106.8	108.1
107.5°	114.4	110.8	107.3	106.2	107.4	108.7	110.0	111.2
110°	185.7	154.1	122.5	107.3	108.6	109.8	111.1	112.4



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CATALOG NUMBER: S122DIW-S290D1440U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	397.2	281.9	166.6	109.4	110.5	111.5	112.5	113.5
115°	584.9	438.5	292.2	207.6	184.9	162.1	139.4	116.6
117.5°	901.2	865.8	830.4	775.3	700.5	625.7	550.9	476.2
120°	1050.1	1053.9	1057.7	1038.2	995.6	952.9	910.2	867.6
122.5°	1114.2	1116.5	1118.7	1115.7	1107.4	1099.2	1090.9	1082.6
125°	1206.2	1208.4	1210.6	1212.2	1213.2	1214.1	1215.1	1216.0
127.5°	1291.3	1294.5	1297.7	1299.5	1299.6	1299.8	1300.0	1300.2
130°	1345.3	1348.8	1352.2	1353.8	1353.5	1353.2	1352.9	1352.5
132.5°	1397.7	1400.7	1403.7	1405.0	1404.7	1404.4	1404.1	1403.7
135°	1472.6	1475.8	1479.0	1480.2	1479.6	1479.0	1478.3	1477.7
137.5°	1542.2	1545.3	1548.4	1549.4	1548.3	1547.3	1546.2	1545.1
140°	1587.2	1590.1	1592.9	1593.5	1592.0	1590.4	1588.8	1587.2
142.5°	1628.8	1631.4	1634.0	1634.5	1632.9	1631.3	1629.8	1628.2
145°	1686.9	1689.1	1691.4	1691.7	1690.1	1688.5	1686.9	1685.4
147.5°	1737.6	1739.2	1740.9	1741.0	1739.7	1738.4	1737.0	1735.7
150°	1768.8	1770.7	1772.6	1772.7	1771.2	1769.6	1768.0	1766.4
152.5°	1797.2	1799.1	1801.0	1800.9	1798.8	1796.8	1794.7	1792.6
155°	1835.6	1837.5	1839.4	1839.1	1836.6	1834.1	1831.5	1829.0
157.5°	1868.0	1870.1	1872.3	1872.1	1869.7	1867.2	1864.7	1862.3
160°	1886.8	1888.7	1890.6	1890.5	1888.3	1886.0	1883.8	1881.6
162.5°	1904.4	1906.6	1908.7	1908.4	1905.7	1903.0	1900.3	1897.6
165°	1925.9	1928.1	1930.3	1930.3	1928.1	1925.9	1923.7	1921.4
167.5°	1943.8	1946.0	1948.2	1947.9	1945.1	1942.2	1939.4	1936.5
170°	1952.9	1955.1	1957.3	1957.0	1954.2	1951.3	1948.5	1945.6
172.5°	1959.7	1961.9	1964.1	1963.8	1961.0	1958.1	1955.3	1952.4
175°	1967.1	1969.3	1971.5	1971.1	1967.9	1964.7	1961.6	1958.4
177.5°	1967.9	1969.7	1971.5	1971.2	1968.9	1966.7	1964.4	1962.1
180°	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5

(END OF REPORT)