

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: P332990

Luminaire Tested: **SA4XXRDIP-C1195D365U835-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332990
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C1195D365U835-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6127.6 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

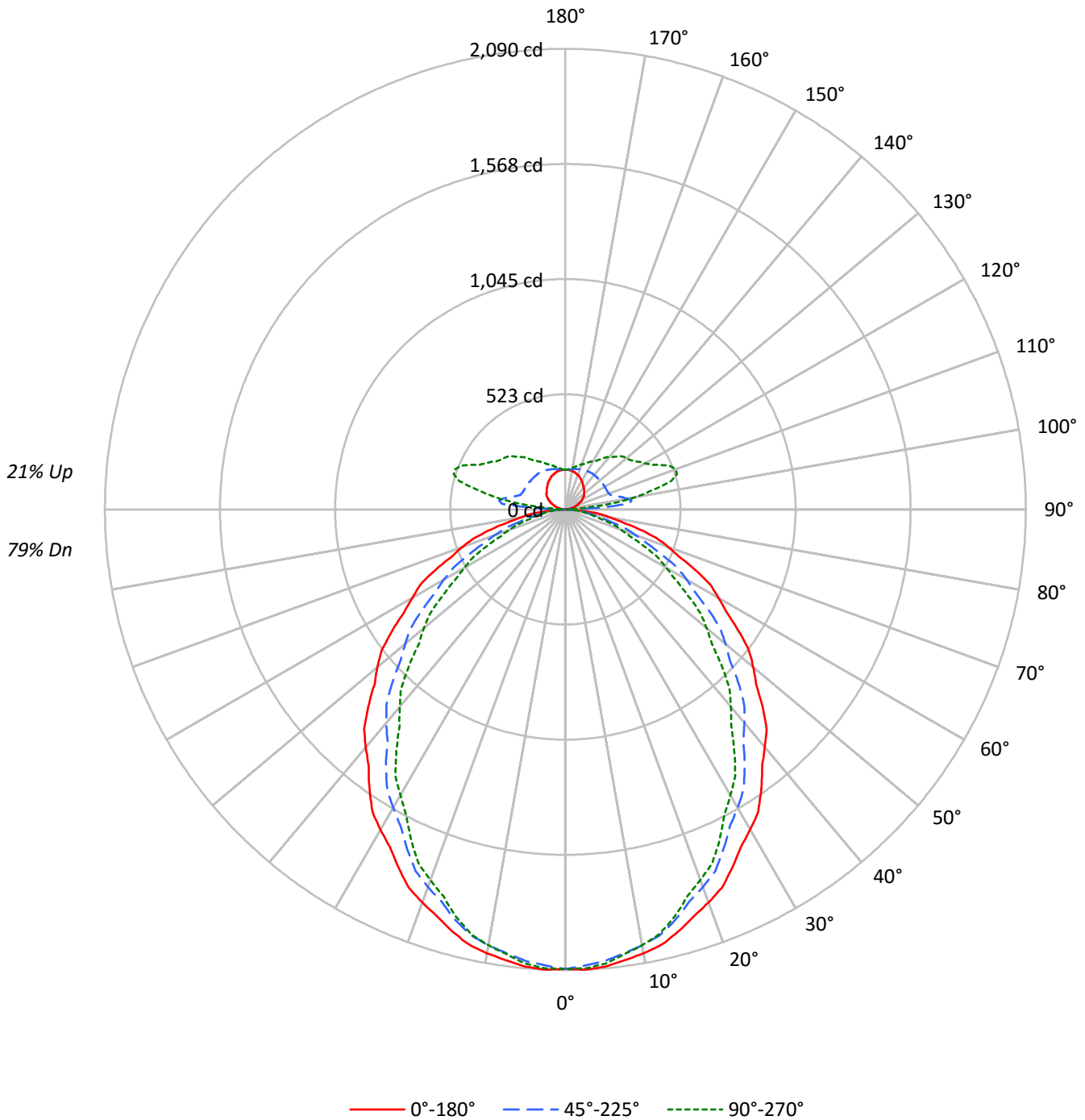
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	114	114	114	114	109	109	109	109	99	99	99	90	90	90	82	82	82	79				
1	105	100	96	93	100	96	93	89	88	85	83	80	78	76	74	72	71	67				
2	96	88	82	77	91	84	79	74	78	73	69	71	68	65	65	63	60	57				
3	88	78	70	64	83	75	68	62	69	63	59	63	59	55	58	55	52	49				
4	80	69	61	55	77	67	59	53	61	55	50	57	52	48	52	48	45	42				
5	74	62	54	48	71	60	52	46	55	49	44	51	46	42	47	43	39	37				
6	68	56	48	42	65	54	46	41	50	44	39	46	41	37	43	38	35	32				
7	64	51	43	37	61	49	41	36	46	39	34	42	37	33	39	35	31	29				
8	59	46	38	33	56	45	37	32	42	35	31	39	33	29	36	32	28	26				
9	55	43	35	30	53	41	34	29	39	32	28	36	31	27	34	29	25	23				
10	52	39	32	27	50	38	31	26	36	30	25	33	28	24	31	27	23	21				

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	3.2
10°-20°	546.3	8.9
20°-30°	788.8	12.9
30°-40°	894.2	14.6
40°-50°	863.5	14.1
50°-60°	718.0	11.7
60°-70°	495.8	8.1
70°-80°	251.3	4.1
80°-90°	65.5	1.1
90°-100°	129.9	2.1
100°-110°	270.4	4.4
110°-120°	242.2	4.0
120°-130°	203.7	3.3
130°-140°	169.9	2.8
140°-150°	129.8	2.1
150°-160°	91.2	1.5
160°-170°	53.7	0.9
170°-180°	17.5	0.3
0°-30°	1531.0	25.0
0°-40°	2425.2	39.6
0°-60°	4006.7	65.4
0°-90°	4819.2	78.6
90°-120°	642.6	10.5
90°-150°	1146.0	18.7
90°-180°	1308.0	21.3
0°-180°	6127.6	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°	0	3	6	7	7	5
95°	12	37	288	143	86	13
105°	41	60	232	499	497	44
115°	73	91	207	397	478	72
125°	101	121	206	338	381	90
135°	120	144	204	300	341	93
145°	139	159	203	253	278	87
155°	158	171	197	223	233	73
165°	172	177	189	200	203	49
175°	180	180	181	184	183	17
180°	180	180	180	180	180	



TEST NUMBER: P332990

CATALOG NUMBER: SA4XXRDIP-C1195D365U835-4F0-1E-UDD-F4

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°	29.5	27.3	25.3	23.1	20.9	19.6	19.7	19.4	19.3	19.2	18.8
90°	0.4	1.1	2.1	2.5	2.8	2.8	4.9	4.9	5.7	6.4	6.0
92.5°	4.0	5.9	9.2	13.5	18.7	26.0	44.0	71.4	98.1	112.1	93.4
95°	11.7	12.7	16.3	20.9	29.3	44.2	74.9	132.9	217.4	288.0	296.2
97.5°	20.9	20.9	24.0	28.2	35.5	47.9	71.6	119.5	203.4	303.4	372.1
100°	26.9	26.9	29.3	33.6	40.3	51.6	72.5	112.4	184.5	284.2	374.6
102.5°	32.5	33.1	35.3	39.2	45.7	56.4	75.3	110.4	171.8	260.1	353.4
105°	41.4	42.4	44.2	48.4	54.8	65.0	82.0	111.3	160.8	231.8	314.9
107.5°	51.1	51.8	53.6	58.1	64.2	74.3	89.8	116.6	158.8	216.0	283.8
110°	57.6	58.3	60.1	64.3	70.7	80.2	95.8	120.5	159.4	210.6	268.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	63.8	64.5	66.6	70.5	76.9	86.4	101.4	124.8	161.1	208.1	259.5
115°	72.8	73.9	76.3	79.9	86.6	96.1	110.3	131.5	164.3	206.8	251.3
117.5°	82.1	83.1	85.3	89.2	95.5	105.4	118.8	138.3	167.8	206.4	247.6
120°	88.4	89.1	91.5	95.4	101.4	111.3	124.8	143.1	170.4	206.4	245.6
122.5°	94.0	94.7	97.2	100.8	107.4	117.0	130.4	147.7	172.9	206.1	243.4
125°	101.4	102.8	105.0	108.9	115.6	125.5	138.2	154.4	176.7	205.7	239.6
127.5°	108.0	109.1	111.7	116.1	123.1	133.1	145.4	160.3	179.8	204.9	234.6
130°	111.7	113.1	115.9	121.2	127.9	138.2	150.2	164.0	182.0	204.6	231.5
132.5°	115.4	116.5	120.2	125.2	132.5	142.1	154.2	167.7	184.0	204.4	228.7
135°	120.5	121.9	125.5	131.5	138.9	148.1	159.7	172.5	187.0	203.9	224.4
137.5°	125.7	127.0	130.9	136.6	144.3	153.1	164.0	175.9	188.7	203.9	220.8
140°	129.4	130.4	134.3	140.3	147.7	156.2	166.8	178.1	190.1	203.6	218.8
142.5°	133.3	134.4	138.0	143.7	150.8	159.0	169.4	179.8	191.3	203.6	217.1
145°	138.9	140.0	143.5	148.4	155.2	162.9	172.1	181.7	191.9	202.9	214.2
147.5°	145.2	145.5	148.7	153.7	159.3	166.3	174.9	183.3	192.3	201.6	211.6
150°	149.1	149.5	152.3	156.6	161.9	168.6	176.4	184.1	192.3	200.7	209.6
152.5°	152.8	152.9	155.7	159.7	164.4	170.6	177.5	184.7	191.7	199.3	207.3
155°	158.0	158.3	160.5	164.0	167.9	173.2	179.2	185.2	190.9	197.2	203.9
157.5°	163.0	163.0	165.0	167.7	171.1	175.3	180.4	185.2	189.9	195.0	200.5
160°	166.1	166.1	167.5	170.0	172.8	176.7	181.0	185.2	189.1	193.3	197.9
162.5°	168.9	168.7	169.8	172.0	174.5	177.6	181.5	185.2	188.2	191.6	195.7
165°	172.1	172.1	172.8	174.6	176.4	178.5	181.7	184.5	186.6	189.1	191.9
167.5°	175.3	174.9	175.3	176.6	177.6	179.3	181.6	183.6	184.9	186.5	188.5
170°	176.7	176.4	176.7	177.8	178.5	179.5	181.3	183.1	183.8	184.8	186.3
172.5°	178.1	177.8	177.8	178.6	179.0	179.8	181.0	182.5	182.7	183.1	184.3
175°	179.5	179.2	179.2	179.5	179.9	179.9	180.6	181.7	181.3	181.3	182.0
177.5°	180.2	179.9	179.6	179.9	179.9	179.9	180.2	180.7	180.2	180.2	180.5
180°	179.9	179.9	179.9	179.9	179.9	179.9	179.9	179.9	179.9	179.9	179.9



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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°	18.6	18.4	18.2	18.2	18.5	18.9	19.1	19.4
90°	6.4	6.7	7.1	7.1	7.4	7.8	7.4	7.4
92.5°	69.4	52.2	41.6	34.5	30.3	28.4	27.2	27.2
95°	261.9	207.1	159.7	125.5	108.1	97.2	90.8	86.2
97.5°	386.9	366.6	332.0	295.1	269.7	248.5	237.9	230.5
100°	426.2	433.3	416.0	389.8	359.1	337.5	326.9	324.1
102.5°	424.3	459.3	464.3	453.4	434.6	419.0	407.8	405.5
105°	395.8	457.0	492.0	506.5	507.2	504.3	499.4	497.3
107.5°	355.5	420.6	469.8	501.4	518.8	526.9	530.4	531.3
110°	331.2	392.3	443.6	482.4	507.5	522.4	528.7	531.9



TEST NUMBER: P332990

CATALOG NUMBER: SA4XXRDIP-C1195D365U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	313.3	367.4	415.8	454.7	483.2	501.2	510.1	515.2
115°	295.5	338.9	380.3	414.2	442.1	463.3	474.7	477.5
117.5°	286.7	322.7	355.2	384.0	407.8	425.6	437.0	439.2
120°	282.7	315.6	343.9	369.0	389.1	404.7	413.9	417.8
122.5°	279.3	311.1	336.8	358.8	375.8	389.1	396.9	400.8
125°	273.6	303.9	328.3	347.8	361.9	372.2	378.9	381.0
127.5°	266.5	295.5	319.9	338.3	352.5	361.6	367.3	369.4
130°	260.8	288.8	312.8	331.5	346.0	354.8	360.5	362.6
132.5°	254.9	281.1	304.6	323.3	337.5	347.5	352.9	355.0
135°	246.7	269.7	291.2	308.9	323.0	332.9	338.6	340.7
137.5°	239.3	258.7	276.9	292.8	306.1	315.8	320.5	323.0
140°	235.0	251.6	267.5	282.4	294.8	302.5	307.5	310.3
142.5°	231.1	245.7	259.3	272.2	283.2	290.4	294.8	296.7
145°	225.5	237.5	248.1	258.0	266.8	272.8	276.4	278.1
147.5°	220.9	230.4	238.9	246.7	253.2	258.4	261.0	261.7
150°	218.1	226.2	233.3	239.6	245.3	249.9	252.0	252.3
152.5°	215.0	222.0	228.5	233.7	238.5	242.2	243.5	243.9
155°	210.3	215.9	221.2	225.5	229.0	231.8	232.9	232.9
157.5°	205.3	210.0	214.5	217.9	220.5	222.7	223.3	223.3
160°	202.2	206.0	209.9	212.8	214.9	217.0	217.4	217.4
162.5°	199.1	202.4	205.4	208.0	209.5	211.6	212.0	211.7
165°	194.7	196.9	199.3	201.1	202.5	203.9	203.6	203.2
167.5°	190.6	192.2	194.2	195.2	195.9	196.9	196.8	196.5
170°	188.0	189.1	190.5	191.6	192.3	192.6	192.3	192.3
172.5°	185.8	186.5	187.4	188.2	188.6	188.9	188.6	188.0
175°	182.7	183.1	183.8	183.8	183.8	184.5	183.8	183.1
177.5°	180.7	181.0	181.0	181.3	181.0	181.3	180.7	180.2
180°	179.9	179.9	179.9	179.9	179.9	179.9	179.9	179.9

(END OF REPORT)