

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: P332687-927

Luminaire Tested: **S124DIP-S1195D590U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332687-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S1195D590U927-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5725.3 lumens
Efficiency: N/A
Efficacy: 103.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

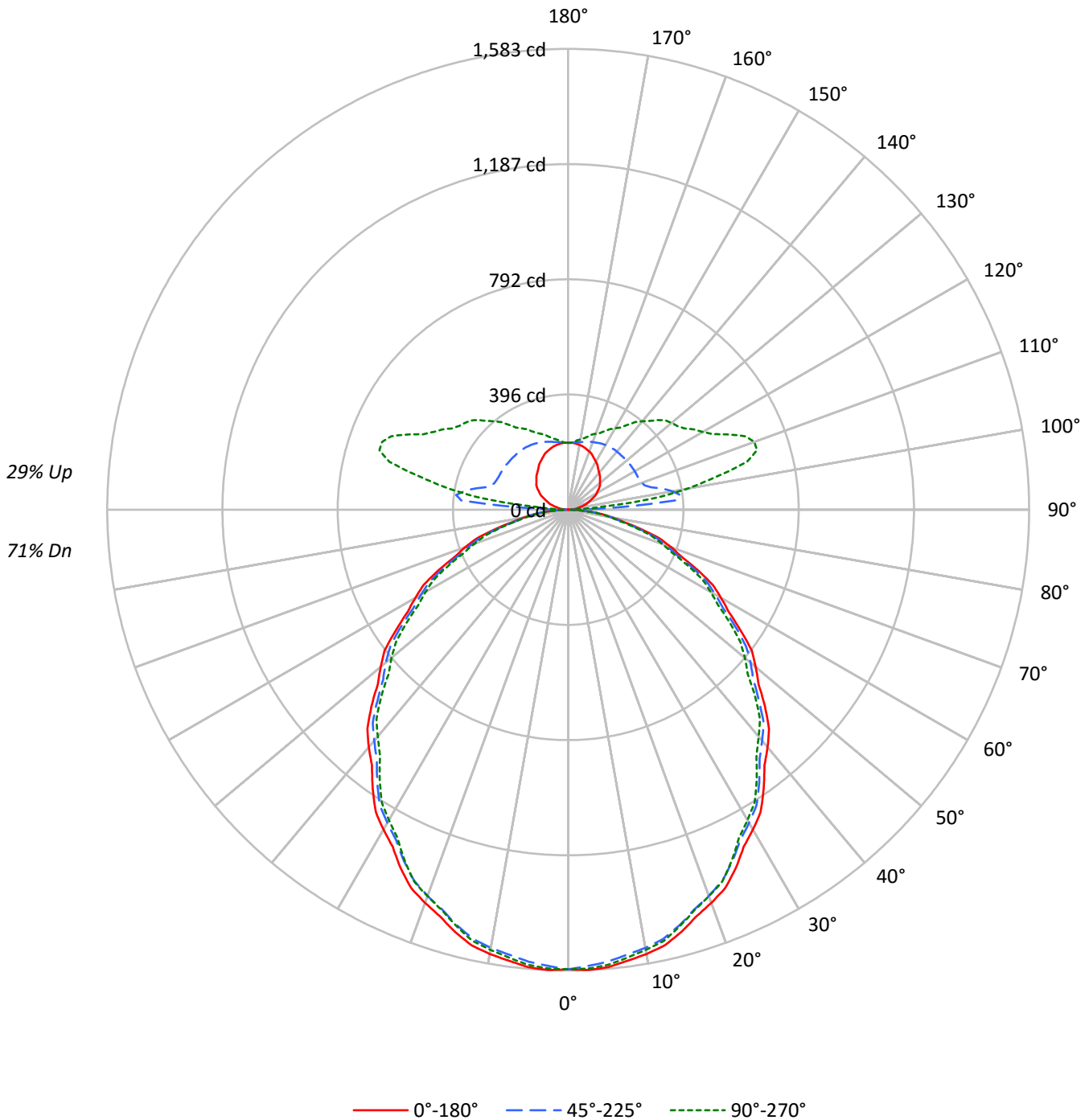
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75	71
1	102	98	94	90	97	93	89	86	83	81	78	75	72	71	66	65	63	60
2	93	86	79	74	88	81	75	71	73	68	65	65	62	59	58	56	53	50
3	85	75	68	61	80	71	65	59	64	59	54	58	54	50	52	48	45	42
4	78	67	58	52	73	63	56	50	57	51	46	52	47	43	46	42	39	36
5	72	60	51	45	68	57	49	43	51	45	40	46	41	37	42	38	34	31
6	66	54	45	39	62	51	43	38	46	40	35	42	37	33	38	34	30	28
7	61	48	40	34	58	46	39	33	42	36	31	38	33	29	35	30	27	24
8	57	44	36	31	54	42	35	30	39	32	28	35	30	26	32	27	24	22
9	53	40	33	27	50	39	32	27	35	29	25	32	27	23	29	25	22	20
10	50	37	30	25	47	36	29	24	33	27	23	30	25	21	27	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12745	12745	12745
5°	12783	12630	12721
10°	12703	12527	12588
15°	12549	12349	12380
20°	12345	12128	12138
25°	12113	11875	11843
30°	11828	11580	11473
35°	11532	11269	11121
40°	11225	10918	10718
45°	10904	10572	10369
50°	10550	10262	9946
55°	10166	9864	9543
60°	9783	9415	9131
65°	9352	8990	8627
70°	8868	8419	8091
75°	8125	7735	7536
80°	7234	6936	6760
85°	6326	6095	5974



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.7	2.6
10°-20°	418.9	7.3
20°-30°	616.5	10.8
30°-40°	716.7	12.5
40°-50°	716.8	12.5
50°-60°	627.0	11.0
60°-70°	465.6	8.1
70°-80°	264.5	4.6
80°-90°	77.6	1.4
90°-100°	166.1	2.9
100°-110°	345.8	6.0
110°-120°	309.7	5.4
120°-130°	260.5	4.6
130°-140°	217.2	3.8
140°-150°	166.0	2.9
150°-160°	116.6	2.0
160°-170°	68.6	1.2
170°-180°	22.3	0.4
0°-30°	1184.1	20.7
0°-40°	1900.8	33.2
0°-60°	3244.6	56.7
0°-90°	4052.4	70.8
90°-120°	821.6	14.4
90°-150°	1465.3	25.6
90°-180°	1673.0	29.2
0°-180°	5725.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1579	1579	1579	1579	1579	
5°	1577	1572	1558	1571	1570	150
15°	1502	1496	1478	1484	1481	423
25°	1360	1350	1333	1334	1330	625
35°	1170	1161	1144	1135	1128	731
45°	955	946	926	913	908	736
55°	722	718	701	686	678	647
65°	490	483	471	458	452	485
75°	260	254	248	243	242	277
85°	68	68	66	66	64	75
90°	0	4	8	9	10	4
95°	15	47	368	182	110	17
105°	53	77	296	638	636	56
115°	93	117	264	508	610	92
125°	130	154	263	432	487	115
135°	154	183	261	384	436	119
145°	178	203	259	324	356	111
155°	202	218	252	286	298	93
165°	220	227	242	256	260	62
175°	230	230	232	235	234	22
180°	230	230	230	230	230	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7
2.5°	1582.7	1582.1	1581.4	1580.7	1580.0	1578.4	1576.0	1573.5	1571.1	1568.6	1570.8
5°	1577.4	1576.3	1575.2	1574.1	1573.0	1570.8	1567.7	1564.6	1561.5	1558.5	1561.5
7.5°	1562.7	1561.6	1560.5	1559.3	1558.2	1556.0	1552.5	1549.1	1545.7	1542.2	1544.8
10°	1549.6	1548.5	1547.4	1546.2	1545.1	1542.7	1539.1	1535.4	1531.8	1528.1	1530.3
12.5°	1532.4	1531.3	1530.1	1529.0	1527.9	1525.3	1521.5	1517.7	1513.8	1509.9	1512.4
15°	1501.5	1500.4	1499.3	1498.2	1497.0	1494.4	1490.1	1485.9	1481.7	1477.5	1479.2
17.5°	1464.3	1462.9	1461.5	1460.2	1458.7	1456.0	1452.0	1448.0	1444.1	1440.0	1441.1
20°	1437.0	1435.6	1434.2	1432.8	1431.4	1428.5	1424.3	1420.1	1415.9	1411.7	1412.5
22.5°	1407.6	1405.8	1404.0	1402.1	1400.3	1397.2	1393.0	1388.8	1384.6	1380.3	1381.9
25°	1359.9	1357.9	1355.9	1353.9	1351.9	1349.0	1345.0	1341.2	1337.2	1333.2	1333.6
27.5°	1305.2	1303.1	1301.2	1299.1	1297.1	1294.3	1290.6	1287.0	1283.3	1279.6	1279.0
30°	1268.8	1266.5	1264.2	1262.0	1259.8	1256.8	1253.2	1249.5	1245.9	1242.2	1241.1
32.5°	1230.3	1228.3	1226.3	1224.2	1222.2	1219.2	1215.4	1211.5	1207.6	1203.7	1202.4
35°	1170.1	1168.2	1166.2	1164.2	1162.2	1159.3	1155.3	1151.4	1147.5	1143.5	1141.5
37.5°	1106.6	1104.8	1103.0	1101.2	1099.4	1096.4	1092.2	1088.0	1083.7	1079.5	1077.4
40°	1065.1	1062.9	1060.6	1058.4	1056.1	1052.9	1048.7	1044.4	1040.2	1036.0	1033.2
42.5°	1020.6	1019.2	1017.9	1016.5	1015.2	1012.2	1007.5	1002.8	998.1	993.5	990.2
45°	955.1	953.1	951.1	949.1	947.2	944.0	939.4	934.9	930.4	926.0	922.9
47.5°	886.5	885.1	883.8	882.4	881.1	878.4	874.2	870.1	865.9	861.7	858.3
50°	840.0	838.8	837.7	836.5	835.4	832.9	828.9	825.1	821.1	817.1	813.3
52.5°	794.4	793.1	791.7	790.4	789.0	786.2	782.1	777.9	773.8	769.6	766.1
55°	722.3	721.4	720.6	719.8	718.9	716.5	712.6	708.7	704.7	700.8	697.4
57.5°	653.5	652.5	651.6	650.6	649.7	647.2	643.3	639.4	635.6	631.7	628.5
60°	605.9	604.5	603.1	601.7	600.3	597.8	594.1	590.5	586.8	583.1	580.6
62.5°	559.4	558.2	557.0	555.8	554.7	552.2	548.3	544.4	540.5	536.6	534.3
65°	489.6	488.1	486.7	485.3	483.9	481.8	479.0	476.2	473.4	470.6	467.8
67.5°	419.2	418.0	416.6	415.3	414.1	412.0	409.3	406.6	403.9	401.2	398.5
70°	375.7	373.8	371.8	369.8	367.8	365.8	363.5	361.2	358.9	356.7	354.5
72.5°	329.2	327.2	325.2	323.2	321.3	319.4	317.6	315.8	314.0	312.2	310.4
75°	260.5	259.2	257.8	256.4	254.9	253.6	252.2	250.7	249.4	248.0	246.8
77.5°	195.0	194.4	193.8	193.2	192.6	191.6	190.4	189.2	188.0	186.7	186.4
80°	155.6	154.7	153.9	153.0	152.3	151.5	151.0	150.4	149.8	149.2	148.7
82.5°	117.2	116.8	116.4	116.0	115.6	115.3	115.2	115.1	114.9	114.9	114.5
85°	68.3	68.3	68.3	68.3	68.3	68.0	67.5	66.9	66.3	65.8	65.8
87.5°	26.4	26.4	26.4	26.3	26.1	25.9	26.2	26.0	26.0	25.9	25.8
90°	0.5	1.3	2.7	3.2	3.6	3.6	6.3	6.3	7.2	8.2	7.7
92.5°	5.1	7.5	11.7	17.3	23.8	33.3	56.2	91.3	125.5	143.3	119.4
95°	14.9	16.2	20.8	26.7	37.5	56.5	95.8	169.9	277.9	368.3	378.7
97.5°	26.8	26.8	30.7	36.0	45.4	61.3	91.6	152.7	260.2	387.9	475.8
100°	34.4	34.4	37.5	42.9	51.5	66.0	92.6	143.7	235.9	363.3	479.0
102.5°	41.6	42.3	45.1	50.1	58.4	72.1	96.3	141.2	219.6	332.6	451.9
105°	52.8	54.3	56.5	61.9	70.0	83.2	104.8	142.4	205.7	296.4	402.7
107.5°	65.4	66.2	68.5	74.3	82.1	95.0	114.9	149.0	203.1	276.2	362.9
110°	73.7	74.5	76.8	82.2	90.4	102.6	122.5	154.1	203.8	269.3	343.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	81.6	82.5	85.2	90.2	98.3	110.5	129.7	159.5	206.0	266.1	331.8
115°	93.1	94.4	97.6	102.1	110.7	122.9	141.0	168.1	210.2	264.4	321.3
117.5°	105.0	106.3	109.1	114.1	122.1	134.8	151.9	176.9	214.5	263.9	316.6
120°	113.0	113.9	117.0	122.0	129.7	142.4	159.5	183.0	217.9	263.9	314.1
122.5°	120.2	121.1	124.3	128.9	137.3	149.6	166.8	188.8	221.1	263.6	311.2
125°	129.7	131.5	134.2	139.2	147.7	160.4	176.7	197.5	225.9	263.0	306.4
127.5°	138.1	139.6	142.8	148.5	157.4	170.2	185.9	205.0	229.8	262.0	300.0
130°	142.8	144.6	148.2	155.0	163.6	176.7	192.0	209.7	232.7	261.7	296.0
132.5°	147.5	148.9	153.7	160.1	169.4	181.7	197.1	214.4	235.3	261.3	292.4
135°	154.1	155.9	160.4	168.1	177.6	189.3	204.2	220.5	239.1	260.7	286.9
137.5°	160.7	162.4	167.4	174.7	184.6	195.7	209.7	224.9	241.3	260.6	282.3
140°	165.4	166.8	171.7	179.4	188.9	199.7	213.3	227.8	243.1	260.3	279.7
142.5°	170.5	171.8	176.4	183.7	192.9	203.4	216.6	229.9	244.5	260.3	277.6
145°	177.6	179.0	183.5	189.8	198.4	208.3	220.1	232.3	245.4	259.4	273.9
147.5°	185.6	186.1	190.0	196.5	203.7	212.7	223.7	234.3	245.8	257.8	270.5
150°	190.7	191.2	194.8	200.2	207.0	215.6	225.5	235.4	245.8	256.7	268.0
152.5°	195.4	195.5	199.1	204.1	210.2	218.1	227.0	236.1	245.1	254.8	265.1
155°	202.0	202.5	205.2	209.7	214.7	221.4	229.1	236.8	244.0	252.2	260.7
157.5°	208.4	208.4	211.0	214.4	218.8	224.1	230.7	236.8	242.9	249.4	256.4
160°	212.4	212.4	214.2	217.4	220.9	225.9	231.4	236.8	241.8	247.2	253.1
162.5°	216.0	215.6	217.1	219.9	223.2	227.0	232.1	236.8	240.7	245.0	250.2
165°	220.1	220.1	220.9	223.2	225.5	228.2	232.3	235.9	238.6	241.8	245.4
167.5°	224.1	223.7	224.1	225.9	227.1	229.2	232.2	234.8	236.5	238.5	241.1
170°	225.9	225.5	225.9	227.3	228.2	229.6	231.8	234.1	235.0	236.3	238.1
172.5°	227.8	227.3	227.4	228.4	228.9	229.9	231.5	233.4	233.5	234.2	235.6
175°	229.6	229.1	229.1	229.6	230.0	230.0	230.9	232.3	231.8	231.8	232.7
177.5°	230.4	230.0	229.7	230.0	230.0	230.0	230.4	231.1	230.4	230.4	230.8
180°	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7
2.5°	1573.0	1575.3	1577.6	1578.6	1578.3	1578.1	1577.9	1577.6
5°	1564.6	1567.7	1570.8	1572.1	1571.5	1571.0	1570.4	1569.8
7.5°	1547.2	1549.7	1552.1	1553.2	1552.9	1552.5	1552.2	1551.9
10°	1532.6	1534.9	1537.1	1537.9	1537.4	1536.8	1536.2	1535.6
12.5°	1514.8	1517.3	1519.8	1520.6	1519.8	1519.0	1518.2	1517.4
15°	1480.8	1482.6	1484.2	1484.6	1483.8	1483.0	1482.1	1481.3
17.5°	1442.2	1443.3	1444.3	1444.5	1444.0	1443.4	1442.9	1442.3
20°	1413.4	1414.2	1415.1	1415.2	1414.7	1414.1	1413.6	1412.9
22.5°	1383.4	1384.9	1386.4	1386.6	1385.7	1384.7	1383.6	1382.6
25°	1333.9	1334.1	1334.4	1334.0	1332.8	1331.7	1330.6	1329.5
27.5°	1278.3	1277.6	1276.9	1275.9	1274.5	1273.1	1271.7	1270.3
30°	1239.9	1238.8	1237.7	1236.4	1235.0	1233.7	1232.2	1230.8
32.5°	1201.0	1199.7	1198.3	1197.0	1195.6	1194.1	1192.8	1191.4
35°	1139.6	1137.7	1135.7	1134.0	1132.6	1131.2	1129.7	1128.4
37.5°	1075.2	1073.1	1071.0	1069.0	1067.1	1065.2	1063.4	1061.5
40°	1030.4	1027.5	1024.8	1022.6	1021.3	1019.9	1018.4	1017.0
42.5°	987.0	983.7	980.5	978.3	977.4	976.4	975.5	974.5
45°	919.8	916.7	913.6	911.6	910.8	909.9	909.1	908.2
47.5°	854.8	851.3	847.8	844.9	842.8	840.7	838.5	836.4
50°	809.3	805.3	801.5	798.6	796.9	795.3	793.5	791.9
52.5°	762.6	759.1	755.7	752.9	750.8	748.6	746.5	744.3
55°	694.0	690.7	687.3	684.8	683.1	681.4	679.7	678.0
57.5°	625.3	622.1	618.9	616.5	614.9	613.2	611.6	610.0
60°	578.1	575.6	573.1	571.1	569.7	568.2	566.9	565.5
62.5°	532.0	529.7	527.4	525.5	524.1	522.7	521.3	519.9
65°	464.9	462.2	459.3	457.2	455.8	454.4	453.0	451.6
67.5°	395.9	393.2	390.5	388.9	388.5	388.1	387.7	387.3
70°	352.2	350.0	347.7	346.2	345.3	344.5	343.6	342.8
72.5°	308.6	306.8	305.0	303.6	302.9	302.0	301.1	300.3
75°	245.7	244.5	243.4	242.7	242.5	242.2	241.9	241.6
77.5°	186.0	185.7	185.4	184.8	184.1	183.4	182.6	181.9
80°	148.1	147.6	147.0	146.6	146.3	146.0	145.8	145.4
82.5°	114.2	113.8	113.5	113.2	112.9	112.6	112.3	112.1
85°	65.8	65.8	65.8	65.7	65.4	65.0	64.8	64.5
87.5°	25.9	26.0	26.1	26.1	26.2	26.3	26.2	26.2
90°	8.2	8.6	9.0	9.0	9.5	9.9	9.5	9.5
92.5°	88.7	66.8	53.2	44.1	38.7	36.4	34.8	34.8
95°	334.9	264.8	204.2	160.4	138.3	124.3	116.1	110.3
97.5°	494.7	468.7	424.5	377.3	344.9	317.7	304.1	294.7
100°	545.0	554.1	531.9	498.4	459.1	431.6	418.0	414.4
102.5°	542.5	587.3	593.7	579.8	555.6	535.7	521.4	518.5
105°	506.1	584.3	629.1	647.6	648.5	644.8	638.5	635.8
107.5°	454.6	537.7	600.8	641.0	663.4	673.7	678.2	679.4
110°	423.4	501.6	567.1	616.9	649.0	667.9	676.0	680.1



TEST NUMBER: P332687-927

CATALOG NUMBER: S124DIP-S1195D590U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	400.7	469.8	531.7	581.4	617.8	640.8	652.2	658.8
115°	377.8	433.4	486.2	529.7	565.3	592.5	606.9	610.5
117.5°	366.5	412.6	454.2	490.9	521.4	544.2	558.8	561.7
120°	361.6	403.5	439.7	471.7	497.6	517.5	529.2	534.2
122.5°	357.2	397.8	430.6	458.8	480.5	497.6	507.5	512.5
125°	349.7	388.6	419.8	444.7	462.7	475.9	484.4	487.1
127.5°	340.7	377.9	409.0	432.5	450.8	462.4	469.6	472.3
130°	333.5	369.2	399.9	423.9	442.4	453.7	461.0	463.7
132.5°	325.9	359.4	389.4	413.4	431.6	444.3	451.1	453.9
135°	315.4	344.8	372.3	395.0	413.0	425.7	432.9	435.6
137.5°	305.9	330.8	354.0	374.5	391.3	403.9	409.8	413.0
140°	300.5	321.8	342.1	361.1	376.9	386.8	393.2	396.8
142.5°	295.5	314.2	331.6	348.1	362.0	371.3	376.9	379.4
145°	288.3	303.6	317.3	329.9	341.2	348.9	353.4	355.6
147.5°	282.4	294.6	305.5	315.4	323.8	330.3	333.7	334.6
150°	278.8	289.2	298.3	306.4	313.6	319.5	322.2	322.7
152.5°	274.8	283.8	292.1	298.8	304.9	309.7	311.3	311.8
155°	268.9	276.1	282.9	288.3	292.9	296.4	297.8	297.8
157.5°	262.4	268.5	274.2	278.5	282.0	284.7	285.5	285.5
160°	258.5	263.5	268.4	272.0	274.7	277.5	277.9	277.9
162.5°	254.5	258.7	262.6	265.9	267.9	270.6	271.1	270.7
165°	249.0	251.7	254.8	257.1	259.0	260.7	260.3	259.8
167.5°	243.7	245.7	248.3	249.6	250.6	251.7	251.6	251.3
170°	240.4	241.8	243.6	244.9	245.8	246.3	245.8	245.8
172.5°	237.5	238.5	239.6	240.6	241.1	241.6	241.1	240.4
175°	233.6	234.1	235.0	235.0	235.0	235.9	235.0	234.1
177.5°	231.1	231.5	231.5	231.8	231.5	231.8	231.1	230.4
180°	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0

(END OF REPORT)