

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: P332678-930

Luminaire Tested: **S124DIP-S1195D365U930-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

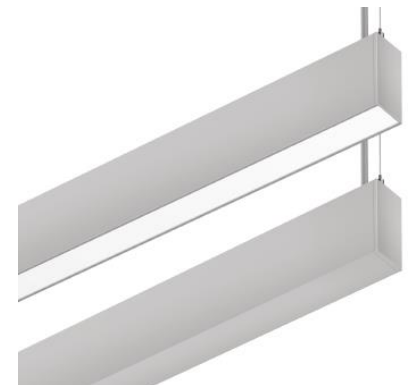
Test Information

Test Method: LM-79-08
Report Number: P332678-930
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-S1195D365U930-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

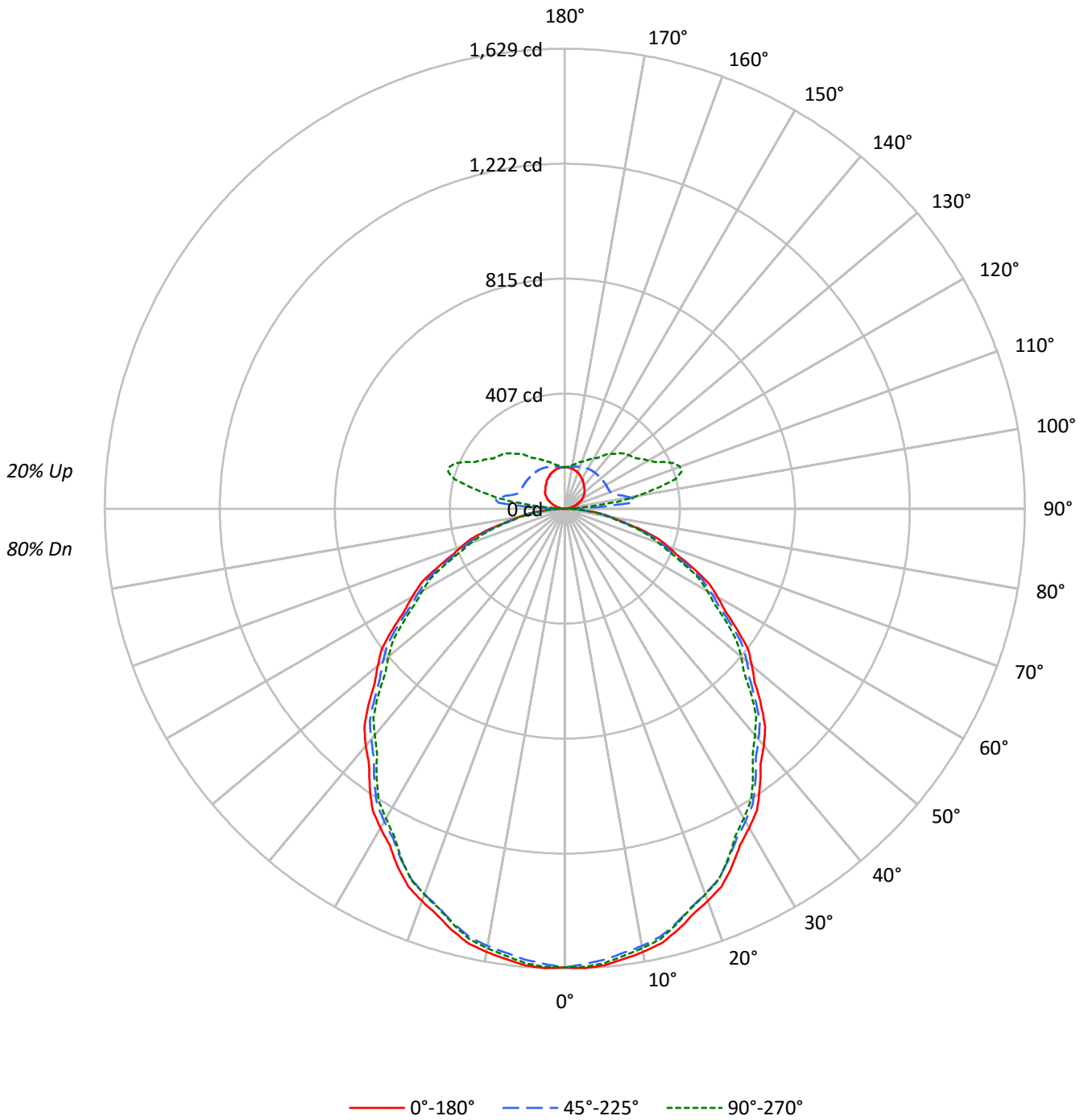
Lumens per Lamp: N/A
Luminaire Lumens: 5236.9 lumens
Efficiency: N/A
Efficacy: 105.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 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			
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																				
0	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	80		
1	104	100	96	92	100	96	92	89	88	85	82	80	78	76	74	72	70	67		
2	95	87	81	75	91	84	78	73	77	72	68	71	67	64	65	62	59	56		
3	87	77	69	63	83	74	67	61	68	62	57	62	58	54	57	54	50	47		
4	80	68	60	53	76	65	58	52	60	54	49	56	50	46	51	47	43	41		
5	73	61	52	46	70	59	51	45	54	48	42	50	45	40	46	42	38	35		
6	68	55	46	40	64	53	45	39	49	42	37	45	40	35	42	37	33	31		
7	63	50	41	35	60	48	40	35	45	38	33	41	36	31	38	34	30	28		
8	58	45	37	32	56	44	36	31	41	34	29	38	32	28	35	30	27	25		
9	54	41	34	28	52	40	33	28	37	31	27	35	29	25	33	28	24	22		
10	51	38	31	26	49	37	30	25	35	28	24	32	27	23	30	26	22	20		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13116	13116	13116
5°	13156	12998	13092
10°	13073	12892	12956
15°	12915	12709	12741
20°	12706	12482	12493
25°	12466	12222	12188
30°	12172	11918	11808
35°	11869	11599	11445
40°	11552	11236	11031
45°	11222	10880	10671
50°	10857	10562	10236
55°	10463	10151	9821
60°	10069	9689	9397
65°	9626	9251	8879
70°	9128	8665	8327
75°	8366	7960	7757
80°	7443	7141	6960
85°	6512	6271	6150



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.0	2.9
10°-20°	431.1	8.2
20°-30°	634.5	12.1
30°-40°	737.7	14.1
40°-50°	737.7	14.1
50°-60°	645.3	12.3
60°-70°	479.2	9.2
70°-80°	272.3	5.2
80°-90°	79.4	1.5
90°-100°	105.9	2.0
100°-110°	220.5	4.2
110°-120°	197.5	3.8
120°-130°	166.1	3.2
130°-140°	138.5	2.6
140°-150°	105.8	2.0
150°-160°	74.4	1.4
160°-170°	43.7	0.8
170°-180°	14.2	0.3
0°-30°	1218.6	23.3
0°-40°	1956.3	37.4
0°-60°	3339.3	63.8
0°-90°	4170.2	79.6
90°-120°	523.9	10.0
90°-150°	934.3	17.8
90°-180°	1067.0	20.4
0°-180°	5236.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1625	1625	1625	1625	1625	
5°	1623	1618	1604	1617	1616	154
15°	1545	1539	1521	1528	1524	435
25°	1400	1390	1372	1373	1368	644
35°	1204	1195	1177	1168	1161	753
45°	983	973	953	939	935	757
55°	743	739	721	706	698	666
65°	504	497	484	472	465	499
75°	268	262	255	250	249	285
85°	70	70	68	68	66	77
90°	0	2	5	6	6	4
95°	10	30	235	116	70	11
105°	34	49	189	407	405	36
115°	59	74	169	324	389	59
125°	83	98	168	276	311	74
135°	98	117	166	245	278	76
145°	113	130	165	206	227	71
155°	129	139	161	182	190	59
165°	140	145	154	163	166	40
175°	146	147	148	150	149	14
180°	147	147	147	147	147	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7
2.5°	1628.9	1628.2	1627.5	1626.8	1626.1	1624.5	1622.0	1619.4	1616.9	1614.4	1616.7
5°	1623.4	1622.3	1621.1	1620.0	1618.9	1616.7	1613.5	1610.3	1607.1	1603.9	1607.1
7.5°	1608.3	1607.2	1606.1	1604.8	1603.7	1601.4	1597.8	1594.3	1590.8	1587.2	1589.8
10°	1594.8	1593.7	1592.5	1591.3	1590.2	1587.7	1584.0	1580.2	1576.5	1572.7	1575.0
12.5°	1577.1	1576.0	1574.8	1573.6	1572.5	1569.9	1565.9	1562.0	1558.0	1554.0	1556.5
15°	1545.3	1544.2	1543.0	1541.9	1540.7	1538.0	1533.6	1529.3	1524.9	1520.6	1522.3
17.5°	1507.1	1505.6	1504.1	1502.8	1501.3	1498.5	1494.4	1490.3	1486.2	1482.1	1483.2
20°	1479.0	1477.5	1476.0	1474.6	1473.2	1470.2	1465.9	1461.6	1457.3	1452.9	1453.8
22.5°	1448.7	1446.8	1445.0	1443.0	1441.1	1437.9	1433.6	1429.3	1425.0	1420.6	1422.2
25°	1399.5	1397.5	1395.5	1393.4	1391.4	1388.4	1384.3	1380.3	1376.2	1372.1	1372.5
27.5°	1343.3	1341.2	1339.1	1337.0	1335.0	1332.0	1328.3	1324.5	1320.8	1317.0	1316.3
30°	1305.8	1303.5	1301.1	1298.9	1296.6	1293.5	1289.7	1286.0	1282.2	1278.5	1277.3
32.5°	1266.2	1264.1	1262.1	1260.0	1257.8	1254.8	1250.8	1246.8	1242.8	1238.8	1237.5
35°	1204.3	1202.2	1200.2	1198.2	1196.1	1193.1	1189.0	1185.0	1181.0	1176.9	1174.8
37.5°	1138.9	1137.0	1135.2	1133.3	1131.5	1128.4	1124.1	1119.7	1115.3	1111.0	1108.8
40°	1096.2	1093.9	1091.5	1089.2	1087.0	1083.6	1079.3	1074.9	1070.6	1066.2	1063.3
42.5°	1050.4	1049.0	1047.6	1046.2	1044.8	1041.7	1036.9	1032.1	1027.3	1022.5	1019.1
45°	982.9	980.9	978.8	976.8	974.9	971.5	966.9	962.2	957.6	953.0	949.8
47.5°	912.3	910.9	909.5	908.2	906.8	904.0	899.7	895.4	891.1	886.9	883.3
50°	864.5	863.3	862.1	861.0	859.8	857.2	853.1	849.1	845.1	841.0	837.0
52.5°	817.6	816.2	814.8	813.4	812.0	809.2	804.9	800.6	796.4	792.1	788.5
55°	743.4	742.5	741.7	740.8	739.9	737.4	733.4	729.4	725.3	721.2	717.8
57.5°	672.5	671.6	670.6	669.6	668.6	666.1	662.1	658.1	654.1	650.1	646.9
60°	623.6	622.2	620.7	619.3	617.8	615.2	611.5	607.7	603.9	600.1	597.5
62.5°	575.7	574.5	573.2	572.0	570.9	568.3	564.3	560.3	556.3	552.3	549.9
65°	503.9	502.4	500.9	499.5	498.1	495.9	493.0	490.1	487.2	484.3	481.4
67.5°	431.5	430.2	428.8	427.5	426.2	424.0	421.3	418.5	415.7	412.9	410.2
70°	386.7	384.7	382.6	380.6	378.5	376.4	374.1	371.8	369.4	367.1	364.8
72.5°	338.8	336.7	334.7	332.6	330.7	328.7	326.9	325.0	323.2	321.3	319.4
75°	268.2	266.8	265.3	263.8	262.4	261.0	259.5	258.0	256.7	255.2	254.0
77.5°	200.7	200.1	199.5	198.9	198.2	197.2	196.0	194.7	193.5	192.2	191.8
80°	160.1	159.2	158.4	157.5	156.7	156.0	155.4	154.7	154.2	153.6	153.0
82.5°	120.6	120.2	119.8	119.4	119.0	118.7	118.5	118.5	118.3	118.2	117.9
85°	70.3	70.3	70.3	70.3	70.3	70.0	69.5	68.9	68.2	67.7	67.7
87.5°	27.1	27.0	27.0	26.8	26.6	26.4	26.5	26.3	26.2	26.0	26.0
90°	0.3	0.9	1.7	2.0	2.3	2.3	4.0	4.0	4.6	5.2	4.9
92.5°	3.3	4.8	7.5	11.0	15.2	21.2	35.9	58.2	80.0	91.4	76.1
95°	9.5	10.4	13.3	17.0	23.9	36.0	61.1	108.4	177.2	234.8	241.5
97.5°	17.0	17.0	19.6	23.0	28.9	39.1	58.4	97.4	165.8	247.4	303.4
100°	21.9	21.9	23.9	27.4	32.9	42.1	59.1	91.6	150.4	231.7	305.4
102.5°	26.5	27.0	28.8	32.0	37.3	46.0	61.4	90.0	140.1	212.1	288.1
105°	33.8	34.6	36.0	39.5	44.7	53.0	66.9	90.7	131.1	189.0	256.7
107.5°	41.7	42.2	43.7	47.4	52.3	60.6	73.2	95.1	129.5	176.1	231.4
110°	47.0	47.5	49.0	52.4	57.6	65.4	78.1	98.2	130.0	171.7	218.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	52.0	52.6	54.3	57.5	62.7	70.4	82.7	101.7	131.3	169.7	211.6
115°	59.4	60.3	62.2	65.1	70.6	78.4	89.9	107.2	134.0	168.6	204.9
117.5°	66.9	67.8	69.5	72.7	77.9	85.9	96.9	112.8	136.8	168.3	201.9
120°	72.1	72.6	74.6	77.8	82.7	90.7	101.7	116.7	138.9	168.3	200.2
122.5°	76.6	77.2	79.2	82.2	87.6	95.4	106.3	120.4	141.0	168.0	198.4
125°	82.7	83.8	85.6	88.8	94.2	102.3	112.7	125.9	144.1	167.7	195.3
127.5°	88.1	88.9	91.1	94.7	100.4	108.5	118.5	130.7	146.6	167.1	191.3
130°	91.1	92.2	94.5	98.8	104.3	112.7	122.5	133.7	148.4	166.8	188.7
132.5°	94.1	95.0	98.0	102.1	108.0	115.9	125.7	136.7	150.0	166.6	186.5
135°	98.2	99.4	102.3	107.2	113.2	120.7	130.2	140.6	152.5	166.2	183.0
137.5°	102.5	103.5	106.7	111.4	117.6	124.8	133.7	143.4	153.8	166.2	180.0
140°	105.5	106.3	109.5	114.4	120.4	127.3	136.0	145.2	155.0	166.0	178.4
142.5°	108.7	109.6	112.5	117.2	122.9	129.6	138.1	146.6	156.0	166.0	177.0
145°	113.2	114.1	117.0	121.0	126.5	132.8	140.3	148.1	156.5	165.4	174.6
147.5°	118.4	118.6	121.2	125.3	129.9	135.6	142.6	149.4	156.8	164.4	172.5
150°	121.6	121.9	124.2	127.7	132.0	137.5	143.8	150.1	156.8	163.6	170.9
152.5°	124.6	124.7	126.9	130.2	134.0	139.1	144.7	150.6	156.3	162.5	169.0
155°	128.8	129.1	130.9	133.7	136.9	141.2	146.1	151.0	155.6	160.8	166.2
157.5°	132.9	132.9	134.5	136.7	139.5	142.9	147.1	151.0	154.8	159.0	163.5
160°	135.4	135.4	136.6	138.6	140.9	144.1	147.6	151.0	154.2	157.6	161.3
162.5°	137.7	137.5	138.4	140.2	142.3	144.8	148.0	151.0	153.4	156.2	159.6
165°	140.3	140.3	140.9	142.4	143.8	145.5	148.1	150.4	152.1	154.2	156.5
167.5°	142.9	142.6	142.9	144.0	144.8	146.2	148.1	149.7	150.7	152.1	153.7
170°	144.1	143.8	144.1	145.0	145.5	146.3	147.8	149.3	149.9	150.7	151.9
172.5°	145.2	145.0	145.0	145.6	145.9	146.6	147.6	148.8	149.0	149.3	150.3
175°	146.3	146.1	146.1	146.3	146.7	146.7	147.2	148.1	147.8	147.8	148.4
177.5°	146.9	146.7	146.4	146.7	146.7	146.7	146.9	147.3	146.9	146.9	147.2
180°	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7
2.5°	1618.9	1621.3	1623.6	1624.6	1624.4	1624.2	1623.9	1623.7
5°	1610.3	1613.5	1616.7	1618.0	1617.4	1616.8	1616.2	1615.6
7.5°	1592.4	1594.9	1597.4	1598.6	1598.2	1597.8	1597.5	1597.2
10°	1577.3	1579.6	1581.9	1582.8	1582.3	1581.7	1581.0	1580.5
12.5°	1559.0	1561.5	1564.2	1565.0	1564.2	1563.3	1562.5	1561.7
15°	1524.0	1525.8	1527.5	1528.0	1527.1	1526.2	1525.3	1524.5
17.5°	1484.3	1485.4	1486.5	1486.7	1486.1	1485.6	1485.0	1484.4
20°	1454.7	1455.5	1456.4	1456.5	1456.0	1455.4	1454.8	1454.2
22.5°	1423.8	1425.3	1426.9	1427.1	1426.1	1425.1	1424.0	1422.9
25°	1372.8	1373.0	1373.4	1372.9	1371.7	1370.6	1369.5	1368.3
27.5°	1315.6	1314.9	1314.2	1313.1	1311.7	1310.3	1308.8	1307.3
30°	1276.1	1275.0	1273.8	1272.5	1271.1	1269.7	1268.2	1266.7
32.5°	1236.1	1234.7	1233.3	1231.9	1230.4	1229.0	1227.6	1226.1
35°	1172.9	1170.9	1168.8	1167.1	1165.6	1164.2	1162.7	1161.3
37.5°	1106.6	1104.4	1102.2	1100.2	1098.3	1096.3	1094.5	1092.5
40°	1060.5	1057.5	1054.7	1052.5	1051.1	1049.6	1048.1	1046.7
42.5°	1015.8	1012.4	1009.1	1006.9	1005.9	1004.9	1004.0	1003.0
45°	946.6	943.5	940.3	938.2	937.3	936.5	935.6	934.7
47.5°	879.7	876.1	872.5	869.6	867.4	865.2	863.0	860.8
50°	832.9	828.8	824.8	821.9	820.2	818.5	816.7	815.0
52.5°	784.9	781.3	777.7	774.9	772.7	770.5	768.3	766.1
55°	714.3	710.9	707.4	704.7	703.0	701.3	699.5	697.8
57.5°	643.6	640.3	637.0	634.5	632.8	631.1	629.4	627.8
60°	594.9	592.4	589.8	587.7	586.3	584.8	583.4	582.0
62.5°	547.5	545.1	542.7	540.9	539.4	537.9	536.5	535.1
65°	478.5	475.6	472.7	470.6	469.1	467.7	466.2	464.8
67.5°	407.4	404.6	401.9	400.2	399.8	399.4	399.0	398.6
70°	362.5	360.2	357.8	356.3	355.4	354.6	353.7	352.8
72.5°	317.6	315.8	313.9	312.5	311.7	310.8	309.9	309.1
75°	252.8	251.7	250.5	249.8	249.6	249.2	248.9	248.7
77.5°	191.4	191.1	190.8	190.2	189.5	188.7	187.9	187.2
80°	152.5	151.9	151.3	150.9	150.6	150.3	150.0	149.7
82.5°	117.5	117.2	116.8	116.5	116.2	115.9	115.6	115.4
85°	67.7	67.7	67.7	67.6	67.3	66.9	66.7	66.4
87.5°	26.0	26.1	26.2	26.2	26.2	26.3	26.2	26.2
90°	5.2	5.5	5.8	5.8	6.0	6.4	6.0	6.0
92.5°	56.6	42.6	33.9	28.1	24.7	23.2	22.2	22.2
95°	213.5	168.8	130.2	102.3	88.1	79.2	74.0	70.3
97.5°	315.4	298.9	270.7	240.6	219.9	202.6	194.0	187.9
100°	347.5	353.3	339.2	317.8	292.8	275.2	266.5	264.2
102.5°	345.9	374.5	378.5	369.7	354.3	341.6	332.5	330.6
105°	322.7	372.6	401.1	412.9	413.5	411.2	407.2	405.4
107.5°	289.8	342.9	383.0	408.8	423.0	429.6	432.4	433.2
110°	270.0	319.8	361.7	393.3	413.8	425.9	431.0	433.7



TEST NUMBER: P332678-930

CATALOG NUMBER: S124DIP-S1195D365U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	255.4	299.5	339.0	370.7	394.0	408.6	415.9	420.0
115°	240.9	276.3	310.1	337.7	360.4	377.7	387.0	389.3
117.5°	233.7	263.1	289.6	313.1	332.5	347.0	356.3	358.1
120°	230.5	257.3	280.4	300.8	317.2	330.0	337.5	340.6
122.5°	227.7	253.6	274.6	292.5	306.4	317.2	323.6	326.8
125°	223.1	247.8	267.7	283.6	295.1	303.5	308.9	310.6
127.5°	217.3	240.9	260.8	275.8	287.4	294.8	299.5	301.2
130°	212.6	235.5	255.0	270.3	282.1	289.3	293.9	295.6
132.5°	207.8	229.2	248.3	263.6	275.2	283.3	287.7	289.4
135°	201.1	219.9	237.4	251.8	263.3	271.4	276.1	277.8
137.5°	195.1	210.9	225.8	238.7	249.6	257.5	261.3	263.3
140°	191.6	205.1	218.1	230.2	240.4	246.6	250.7	253.0
142.5°	188.4	200.3	211.4	221.9	230.9	236.8	240.4	241.9
145°	183.8	193.6	202.3	210.3	217.5	222.4	225.3	226.7
147.5°	180.1	187.8	194.8	201.1	206.4	210.7	212.8	213.4
150°	177.8	184.4	190.2	195.3	200.0	203.7	205.5	205.7
152.5°	175.3	181.0	186.3	190.5	194.4	197.5	198.5	198.9
155°	171.5	176.0	180.3	183.8	186.7	189.0	189.9	189.9
157.5°	167.4	171.2	174.9	177.7	179.8	181.6	182.1	182.1
160°	164.9	168.0	171.1	173.5	175.2	176.9	177.2	177.2
162.5°	162.3	165.0	167.5	169.6	170.8	172.5	172.8	172.6
165°	158.7	160.5	162.5	164.0	165.1	166.2	166.0	165.7
167.5°	155.4	156.7	158.3	159.1	159.7	160.5	160.5	160.2
170°	153.3	154.2	155.3	156.2	156.8	157.0	156.8	156.8
172.5°	151.5	152.1	152.8	153.4	153.8	154.0	153.8	153.3
175°	149.0	149.3	149.9	149.9	149.9	150.4	149.9	149.3
177.5°	147.3	147.6	147.6	147.8	147.6	147.8	147.3	146.9
180°	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7

(END OF REPORT)