

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: P332630

Luminaire Tested: **S124DIP-S1020D365U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332630
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-S1020D365U835-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5518.2 lumens
Efficiency: N/A
Efficacy: 126.9 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

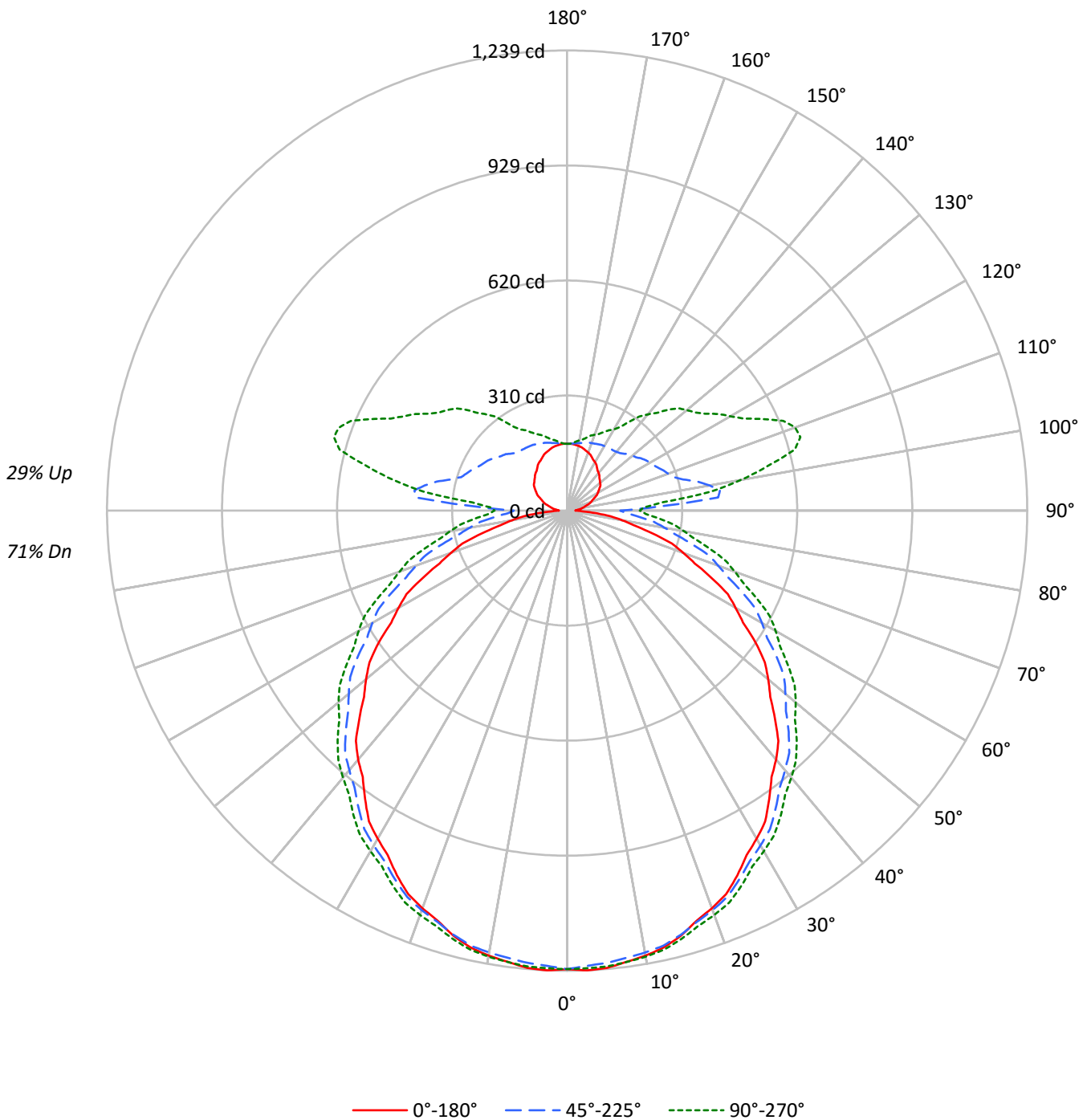
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332630

CATALOG NUMBER: S124DIP-S1020D365U835-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





TEST NUMBER: P332630

CATALOG NUMBER: S124DIP-S1020D365U835-4F0-1E-UDD-D4

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	84	84	84	75	75	75	71
1	101	96	91	87	95	91	87	83	81	78	75	72	70	68	64	62	61	56
2	91	83	76	70	86	79	72	67	70	65	61	63	59	55	56	53	50	46
3	83	72	64	58	78	69	61	55	61	56	51	55	50	46	49	45	42	38
4	76	64	55	49	71	61	53	47	54	48	43	49	43	39	43	39	36	32
5	69	57	48	41	65	54	46	40	49	42	37	43	38	34	39	34	31	28
6	64	51	42	36	60	48	40	35	44	37	32	39	34	29	35	31	27	24
7	59	46	37	31	56	44	36	30	40	33	28	36	30	26	32	27	24	21
8	55	42	33	28	52	40	32	27	36	30	25	33	27	23	29	25	21	19
9	51	38	30	25	48	36	29	24	33	27	22	30	25	21	27	22	19	17
10	48	35	27	22	45	34	26	22	31	24	20	28	22	19	25	21	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9968	9968	9968
5°	9998	9741	9769
10°	9937	9582	9575
15°	9848	9397	9346
20°	9714	9194	9123
25°	9563	8966	8879
30°	9399	8739	8627
35°	9213	8507	8407
40°	9065	8285	8178
45°	8844	8081	7981
50°	8658	7846	7773
55°	8466	7625	7529
60°	8166	7342	7306
65°	7837	7040	7032
70°	7439	6694	6714
75°	6882	6312	6425
80°	6266	5946	6141
85°	5484	5623	5977



TEST NUMBER: P332630

CATALOG NUMBER: S124DIP-S1020D365U835-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.9	2.1
10°-20°	335.0	6.1
20°-30°	506.5	9.2
30°-40°	612.9	11.1
40°-50°	647.9	11.7
50°-60°	609.8	11.1
60°-70°	505.9	9.2
70°-80°	355.4	6.4
80°-90°	201.9	3.7
90°-100°	249.2	4.5
100°-110°	358.7	6.5
110°-120°	301.5	5.5
120°-130°	237.2	4.3
130°-140°	184.3	3.3
140°-150°	132.7	2.4
150°-160°	91.2	1.7
160°-170°	53.7	1.0
170°-180°	17.5	0.3
0°-30°	958.4	17.4
0°-40°	1571.3	28.5
0°-60°	2829.0	51.3
0°-90°	3892.1	70.5
90°-120°	909.4	16.5
90°-150°	1463.7	26.5
90°-180°	1626.0	29.5
0°-180°	5518.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1235	1235	1235	1235	1235	
5°	1236	1232	1222	1233	1232	117
15°	1185	1186	1182	1194	1193	334
25°	1084	1092	1096	1111	1113	499
35°	948	965	979	997	1002	594
45°	791	817	843	866	874	611
55°	619	649	690	716	726	552
65°	429	473	520	553	566	425
75°	238	289	347	384	398	253
85°	73	132	194	234	249	78
90°	22	80	143	182	196	15
95°	30	101	408	299	256	27
105°	54	101	323	624	634	58
115°	81	114	272	492	583	81
125°	107	127	244	402	454	96
135°	123	147	216	334	384	96
145°	140	159	203	261	292	88
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: P332630

CATALOG NUMBER: S124DIP-S1020D365U835-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7
2.5°	1239.1	1238.4	1237.6	1236.9	1236.1	1234.8	1232.8	1230.9	1228.9	1226.9	1228.6
5°	1236.0	1235.1	1234.2	1233.3	1232.4	1230.8	1228.7	1226.5	1224.4	1222.2	1224.7
7.5°	1225.5	1225.0	1224.4	1223.9	1223.3	1222.2	1220.4	1218.6	1216.8	1215.0	1217.8
10°	1216.7	1216.4	1216.1	1215.8	1215.5	1214.5	1213.0	1211.5	1209.9	1208.4	1211.2
12.5°	1204.5	1204.5	1204.4	1204.3	1204.3	1203.7	1202.7	1201.6	1200.6	1199.5	1202.1
15°	1184.9	1185.2	1185.5	1185.8	1186.1	1185.8	1184.9	1184.0	1183.0	1182.1	1184.9
17.5°	1158.1	1159.0	1159.9	1160.8	1161.8	1162.1	1161.9	1161.8	1161.6	1161.4	1164.2
20°	1139.3	1140.2	1141.1	1142.0	1143.0	1143.6	1143.9	1144.2	1144.5	1144.8	1147.9
22.5°	1118.2	1119.4	1120.6	1121.8	1122.9	1123.8	1124.3	1124.9	1125.4	1126.0	1129.1
25°	1084.0	1085.8	1087.6	1089.5	1091.3	1092.7	1093.6	1094.6	1095.5	1096.4	1099.8
27.5°	1045.8	1048.5	1051.2	1053.9	1056.6	1058.7	1060.1	1061.5	1062.9	1064.3	1067.5
30°	1020.4	1022.8	1025.3	1027.7	1030.2	1032.5	1034.6	1036.8	1038.9	1041.1	1044.5
32.5°	992.7	995.7	998.6	1001.6	1004.5	1007.2	1009.6	1012.0	1014.4	1016.8	1020.6
35°	948.5	952.2	955.8	959.5	963.2	966.6	969.7	972.7	975.8	978.9	983.2
37.5°	903.9	908.2	912.4	916.7	920.9	924.9	928.7	932.5	936.4	940.2	944.5
40°	875.2	879.2	883.2	887.2	891.2	895.3	899.6	903.9	908.2	912.5	917.1
42.5°	842.0	846.5	851.0	855.5	859.9	864.7	869.7	874.8	879.8	884.9	890.0
45°	790.8	796.7	802.5	808.4	814.2	820.0	825.9	831.7	837.5	843.4	848.6
47.5°	741.9	747.9	753.9	760.0	766.0	772.4	779.1	785.9	792.7	799.4	804.8
50°	706.5	713.3	720.0	726.8	733.5	740.3	747.1	753.8	760.6	767.3	773.5
52.5°	671.1	677.9	684.6	691.4	698.2	705.4	713.1	720.9	728.6	736.4	742.5
55°	619.4	625.9	632.3	638.8	645.2	653.0	662.3	671.5	680.7	689.9	696.1
57.5°	561.6	569.6	577.6	585.6	593.6	602.1	611.3	620.5	629.6	638.8	646.1
60°	524.0	532.0	540.0	548.0	556.0	565.0	575.2	585.3	595.4	605.6	612.6
62.5°	487.5	496.2	505.0	513.7	522.4	531.8	542.0	552.1	562.3	572.4	579.5
65°	428.6	438.4	448.3	458.1	467.9	478.1	488.5	499.0	509.4	519.9	527.5
67.5°	371.9	382.4	392.8	403.3	413.7	424.5	435.7	446.9	458.1	469.3	477.1
70°	333.2	343.7	354.1	364.5	375.0	386.1	397.7	409.4	421.1	432.8	441.1
72.5°	295.6	306.3	317.0	327.7	338.4	349.9	362.3	374.7	387.2	399.6	407.6
75°	237.8	249.2	260.5	271.9	283.3	295.4	308.3	321.2	334.1	347.0	355.6
77.5°	183.9	195.9	208.0	220.0	232.1	244.8	258.4	271.9	285.4	298.9	307.6
80°	150.7	163.0	175.3	187.6	199.9	212.8	226.3	239.8	253.3	266.8	276.1
82.5°	117.5	130.3	143.1	155.9	168.6	181.8	195.3	208.8	222.4	235.9	245.3
85°	73.3	86.2	99.1	112.0	124.9	138.3	152.1	165.9	179.7	193.6	202.8
87.5°	41.0	53.7	66.4	79.0	91.6	104.6	118.5	132.0	145.6	159.2	168.0
90°	22.5	35.5	48.8	61.5	74.1	86.9	102.2	115.4	129.3	143.2	151.8
92.5°	25.0	37.9	52.3	67.7	83.9	103.4	134.6	175.2	215.1	242.3	232.3
95°	29.6	40.8	54.5	69.2	87.9	114.1	157.4	228.0	325.0	408.3	424.8
97.5°	37.2	46.0	57.7	70.7	86.7	109.7	145.9	206.2	302.7	415.1	491.9
100°	42.1	50.1	60.5	72.7	87.5	108.7	141.6	193.5	277.6	389.2	488.0
102.5°	47.7	55.3	64.5	75.5	88.9	109.0	139.6	186.5	259.6	359.7	461.0
105°	53.8	61.0	68.9	79.3	91.8	110.8	139.1	179.8	240.7	323.1	413.8
107.5°	63.3	69.0	75.8	85.4	96.5	114.5	140.8	178.3	231.3	299.2	374.6
110°	68.7	73.7	79.7	88.3	99.0	116.0	142.3	177.8	227.5	289.5	354.1



TEST NUMBER: P332630

CATALOG NUMBER: S124DIP-S1020D365U835-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	73.8	78.3	84.2	91.9	102.1	118.7	143.9	177.5	224.1	281.4	339.6
115°	81.1	84.9	90.2	96.5	105.9	121.8	145.8	176.8	219.5	271.7	323.0
117.5°	90.2	92.8	96.7	102.2	110.2	125.5	148.0	176.7	215.3	263.1	310.7
120°	95.3	96.9	100.3	105.1	112.0	126.8	149.2	176.5	212.6	257.6	302.9
122.5°	100.9	101.8	104.5	108.3	115.0	128.9	150.8	176.5	210.1	251.7	295.1
125°	107.0	108.1	109.9	113.5	119.9	133.5	153.9	177.8	207.7	244.4	284.2
127.5°	113.3	114.1	116.3	120.5	127.2	139.9	158.1	178.9	204.3	235.3	270.6
130°	115.8	116.9	119.5	124.5	130.9	143.4	160.3	179.0	202.0	229.5	261.9
132.5°	119.5	120.3	123.7	128.4	135.4	146.9	162.8	180.3	200.5	224.8	254.4
135°	123.3	124.7	128.2	134.2	141.7	151.9	165.7	180.6	197.3	216.4	241.8
137.5°	128.4	129.5	133.1	138.5	145.9	155.0	166.9	179.9	193.8	209.9	231.3
140°	132.1	132.9	136.5	142.2	149.3	157.8	168.7	180.3	192.6	206.3	225.5
142.5°	135.0	136.0	139.5	145.2	152.3	160.3	170.5	180.7	192.0	204.1	221.1
145°	140.3	141.0	144.3	148.9	155.3	162.9	172.1	181.7	191.9	202.9	216.0
147.5°	146.6	146.6	149.4	154.2	159.5	166.3	174.9	183.3	192.3	201.6	211.8
150°	150.5	150.6	153.1	157.0	162.0	168.6	176.4	184.1	192.3	200.7	209.6
152.5°	153.1	153.1	155.9	159.8	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



TEST NUMBER: P332630

CATALOG NUMBER: S124DIP-S1020D365U835-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7
2.5°	1230.4	1232.1	1233.8	1234.5	1234.3	1234.0	1233.8	1233.6
5°	1227.1	1229.6	1232.1	1233.1	1232.8	1232.5	1232.2	1231.9
7.5°	1220.6	1223.3	1226.1	1227.3	1227.0	1226.7	1226.4	1226.1
10°	1213.9	1216.7	1219.5	1220.7	1220.4	1220.1	1219.8	1219.5
12.5°	1204.6	1207.1	1209.6	1210.9	1210.8	1210.7	1210.7	1210.6
15°	1187.7	1190.4	1193.2	1194.4	1194.1	1193.8	1193.5	1193.2
17.5°	1167.0	1169.9	1172.7	1174.0	1173.7	1173.5	1173.2	1173.0
20°	1150.9	1154.0	1157.1	1158.6	1158.6	1158.6	1158.6	1158.6
22.5°	1132.1	1135.2	1138.3	1140.1	1140.6	1141.0	1141.5	1142.0
25°	1103.2	1106.5	1109.9	1111.8	1112.1	1112.4	1112.7	1113.0
27.5°	1070.6	1073.7	1076.9	1078.6	1079.0	1079.4	1079.7	1080.1
30°	1047.9	1051.2	1054.6	1056.6	1057.2	1057.8	1058.5	1059.1
32.5°	1024.5	1028.4	1032.3	1034.5	1035.1	1035.7	1036.3	1037.0
35°	987.5	991.8	996.1	998.7	999.6	1000.5	1001.5	1002.4
37.5°	948.9	953.3	957.6	960.3	961.3	962.3	963.2	964.2
40°	921.7	926.3	931.0	933.9	935.1	936.3	937.6	938.8
42.5°	895.1	900.2	905.3	908.3	909.3	910.3	911.3	912.2
45°	853.8	859.1	864.3	867.7	869.2	870.7	872.3	873.8
47.5°	810.2	815.6	821.1	824.7	826.5	828.4	830.2	832.1
50°	779.6	785.8	791.9	795.9	797.8	799.6	801.4	803.3
52.5°	748.7	754.8	761.0	764.9	766.8	768.6	770.5	772.3
55°	702.2	708.4	714.5	718.5	720.3	722.2	724.0	725.9
57.5°	653.4	660.7	668.0	672.5	674.2	676.0	677.7	679.4
60°	619.7	626.8	633.8	638.6	641.1	643.5	646.0	648.4
62.5°	586.5	593.6	600.7	605.4	607.9	610.3	612.8	615.3
65°	535.2	542.9	550.6	555.7	558.1	560.6	563.0	565.5
67.5°	484.9	492.7	500.5	505.6	508.0	510.4	512.8	515.2
70°	449.3	457.6	465.9	471.2	473.3	475.5	477.6	479.8
72.5°	415.7	423.7	431.8	437.0	439.4	441.8	444.2	446.6
75°	364.2	372.8	381.4	387.1	389.9	392.7	395.4	398.2
77.5°	316.4	325.1	333.8	339.7	342.6	345.6	348.5	351.5
80°	285.3	294.5	303.7	309.5	312.0	314.5	316.9	319.4
82.5°	254.8	264.3	273.7	279.8	282.5	285.2	287.9	290.6
85°	212.0	221.2	230.4	236.6	239.7	242.7	245.8	248.9
87.5°	177.0	186.0	194.9	200.8	203.5	206.3	208.9	211.6
90°	161.1	170.3	179.6	185.3	188.1	190.9	193.0	195.5
92.5°	217.0	208.5	206.5	205.0	203.2	203.8	205.0	207.5
95°	398.8	352.3	313.2	284.5	269.9	261.7	258.1	256.3
97.5°	514.7	502.4	475.9	444.4	421.6	403.0	395.0	390.3
100°	547.9	563.3	554.2	533.3	504.7	485.3	476.9	476.2
102.5°	539.9	583.0	596.1	590.4	573.9	560.7	551.9	552.1
105°	502.5	571.3	613.9	633.5	636.7	636.3	633.8	634.1
107.5°	453.8	526.5	583.3	619.7	639.4	649.7	655.4	658.5
110°	424.1	492.3	550.6	594.3	621.8	639.1	647.9	653.6



TEST NUMBER: P332630

CATALOG NUMBER: S124DIP-S1020D365U835-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	400.3	461.2	516.4	559.9	590.9	611.3	622.6	630.3
115°	374.0	424.2	472.3	510.7	540.8	564.1	577.6	582.6
117.5°	356.2	398.5	437.4	470.6	496.9	517.2	531.1	535.7
120°	346.2	385.2	419.6	449.0	471.6	489.6	501.3	507.6
122.5°	337.3	375.1	407.0	433.2	452.4	467.9	477.9	484.0
125°	323.9	360.2	390.4	413.7	429.7	441.7	450.3	454.3
127.5°	308.0	342.5	372.4	394.6	410.9	422.2	429.9	434.1
130°	296.8	330.2	359.8	382.2	398.5	409.2	416.7	420.7
132.5°	285.9	317.4	346.2	368.5	384.5	396.3	403.6	407.5
135°	269.0	296.9	323.3	344.4	360.4	372.1	379.6	383.6
137.5°	254.3	278.2	300.9	319.9	334.6	345.9	352.1	356.2
140°	245.8	266.4	286.3	303.9	317.8	327.1	333.6	338.0
142.5°	238.6	256.8	273.9	289.2	301.4	309.9	315.6	318.9
145°	229.2	243.0	255.5	266.9	277.0	284.2	289.0	292.0
147.5°	221.4	231.2	239.9	248.3	255.8	261.9	265.6	267.2
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)