

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: P332673-930

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332673-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
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-D  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

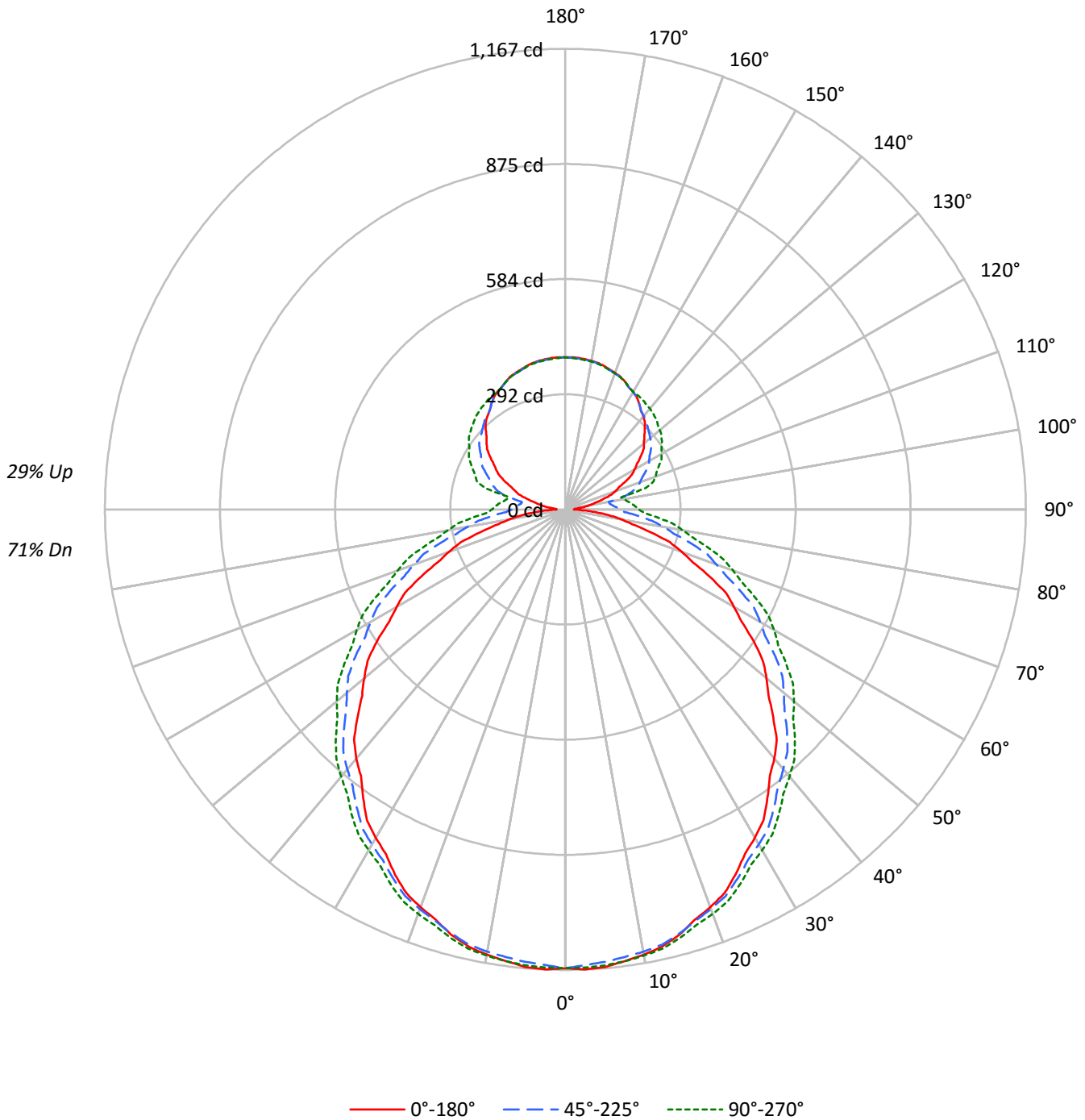
Lumens per Lamp: N/A  
Luminaire Lumens: 5155.9 lumens  
Efficiency: N/A  
Efficacy: 103.5 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

Input Watts (W): 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





TEST NUMBER: P332673-930

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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	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75	75	75	75	71	
1	101	96	91	87	95	91	87	83	81	78	75	73	70	68	64	63	61	64	63	61	57	
2	91	83	76	70	86	79	72	67	70	65	61	63	59	56	56	53	50	56	53	50	46	
3	83	73	64	58	78	69	61	55	62	56	51	55	50	46	49	45	42	49	45	42	39	
4	76	64	55	49	71	61	53	47	55	48	43	49	44	39	44	39	36	44	39	36	33	
5	70	57	48	41	65	54	46	40	49	42	37	44	38	34	39	35	31	39	35	31	28	
6	64	51	42	36	60	49	40	35	44	37	32	39	34	30	35	31	27	35	31	27	24	
7	59	46	37	31	56	44	36	30	40	33	28	36	30	26	32	28	24	32	28	24	22	
8	55	42	34	28	52	40	32	27	36	30	25	33	27	23	30	25	21	30	25	21	19	
9	51	38	30	25	48	37	29	24	33	27	22	30	25	21	27	23	19	27	23	19	17	
10	48	35	27	22	45	34	26	22	31	24	20	28	23	19	25	21	17	25	21	17	16	

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9386	9386	9386
5°	9414	9173	9199
10°	9357	9022	9016
15°	9273	8849	8800
20°	9147	8658	8591
25°	9004	8442	8360
30°	8849	8228	8124
35°	8675	8010	7917
40°	8536	7801	7700
45°	8329	7610	7515
50°	8153	7388	7319
55°	7973	7179	7089
60°	7689	6913	6880
65°	7380	6628	6622
70°	7004	6302	6322
75°	6483	5945	6051
80°	5900	5600	5784
85°	5162	5295	5626



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.1	2.1
10°-20°	315.4	6.1
20°-30°	477.0	9.3
30°-40°	577.1	11.2
40°-50°	610.1	11.8
50°-60°	574.2	11.1
60°-70°	476.4	9.2
70°-80°	334.6	6.5
80°-90°	190.3	3.7
90°-100°	125.5	2.4
100°-110°	167.2	3.2
110°-120°	216.5	4.2
120°-130°	235.5	4.6
130°-140°	231.9	4.5
140°-150°	206.9	4.0
150°-160°	164.6	3.2
160°-170°	106.2	2.1
170°-180°	36.6	0.7
0°-30°	902.5	17.5
0°-40°	1479.6	28.7
0°-60°	2663.8	51.7
0°-90°	3665.1	71.1
90°-120°	509.2	9.9
90°-150°	1183.4	23.0
90°-180°	1491.0	28.9
0°-180°	5155.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1163	1163	1163	1163	1163	
5°	1164	1160	1151	1161	1160	110
15°	1116	1117	1113	1124	1124	314
25°	1021	1028	1032	1046	1048	470
35°	893	908	922	939	944	559
45°	745	769	794	815	823	575
55°	583	611	650	675	684	520
65°	404	445	490	521	532	400
75°	224	272	327	362	375	238
85°	69	124	182	220	234	73
90°	22	77	135	173	186	14
95°	33	67	120	155	168	34
105°	98	127	176	209	211	104
115°	170	184	224	252	262	168
125°	233	234	265	289	298	208
135°	285	285	295	316	325	220
145°	327	326	326	334	340	204
155°	357	357	356	357	357	165
165°	377	375	375	377	375	106
175°	385	384	384	386	383	37
180°	385	385	385	385	385	



TEST NUMBER: P332673-930

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

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1166.8	1166.0	1165.4	1164.7	1164.0	1162.7	1160.8	1159.0	1157.2	1155.3	1156.9
5°	1163.8	1163.0	1162.1	1161.3	1160.4	1158.9	1156.9	1154.9	1152.9	1150.9	1153.2
7.5°	1154.0	1153.5	1152.9	1152.4	1151.9	1150.8	1149.2	1147.5	1145.7	1144.1	1146.7
10°	1145.7	1145.3	1145.1	1144.8	1144.5	1143.6	1142.2	1140.8	1139.3	1137.8	1140.4
12.5°	1134.2	1134.2	1134.1	1134.0	1134.0	1133.4	1132.5	1131.5	1130.5	1129.5	1131.9
15°	1115.7	1116.0	1116.3	1116.6	1116.9	1116.6	1115.7	1114.8	1113.9	1113.1	1115.7
17.5°	1090.5	1091.4	1092.2	1093.1	1093.9	1094.3	1094.1	1093.9	1093.7	1093.6	1096.3
20°	1072.8	1073.6	1074.5	1075.4	1076.2	1076.8	1077.1	1077.4	1077.7	1078.0	1080.8
22.5°	1053.0	1054.0	1055.2	1056.2	1057.4	1058.2	1058.7	1059.2	1059.7	1060.2	1063.2
25°	1020.7	1022.4	1024.2	1025.9	1027.6	1028.9	1029.8	1030.6	1031.5	1032.4	1035.6
27.5°	984.7	987.3	989.9	992.4	994.9	996.9	998.2	999.6	1000.9	1002.2	1005.1
30°	960.7	963.1	965.4	967.8	970.0	972.2	974.2	976.2	978.3	980.3	983.5
32.5°	934.7	937.5	940.3	943.1	945.8	948.4	950.6	952.9	955.1	957.4	961.1
35°	893.1	896.6	900.0	903.5	906.9	910.1	913.1	915.9	918.8	921.7	925.8
37.5°	851.2	855.2	859.2	863.2	867.2	870.9	874.5	878.1	881.7	885.3	889.4
40°	824.1	827.9	831.6	835.4	839.1	843.0	847.1	851.2	855.2	859.2	863.6
42.5°	792.9	797.0	801.3	805.5	809.8	814.2	819.0	823.7	828.4	833.2	838.0
45°	744.7	750.2	755.7	761.2	766.6	772.2	777.6	783.2	788.6	794.2	799.1
47.5°	698.5	704.3	710.0	715.6	721.3	727.3	733.7	740.0	746.4	752.8	757.8
50°	665.3	671.6	678.0	684.4	690.7	697.1	703.4	709.8	716.2	722.5	728.3
52.5°	631.9	638.3	644.7	651.0	657.4	664.2	671.5	678.8	686.1	693.4	699.2
55°	583.3	589.3	595.4	601.4	607.6	614.9	623.6	632.3	641.0	649.6	655.4
57.5°	528.8	536.4	543.9	551.4	558.9	567.0	575.6	584.2	592.9	601.4	608.4
60°	493.4	500.9	508.4	516.0	523.5	532.1	541.6	551.1	560.7	570.2	576.9
62.5°	459.0	467.2	475.5	483.7	491.9	500.8	510.4	519.9	529.5	539.0	545.6
65°	403.6	412.9	422.1	431.4	440.6	450.1	460.0	469.9	479.6	489.5	496.8
67.5°	350.2	360.0	369.9	379.7	389.6	399.7	410.3	420.8	431.3	441.9	449.2
70°	313.7	323.6	333.5	343.2	353.1	363.5	374.5	385.5	396.5	407.5	415.3
72.5°	278.3	288.4	298.5	308.5	318.6	329.5	341.2	352.9	364.5	376.3	383.8
75°	224.0	234.6	245.3	256.0	266.8	278.2	290.3	302.5	314.6	326.8	334.8
77.5°	173.2	184.5	195.8	207.2	218.5	230.6	243.3	256.0	268.7	281.4	289.7
80°	141.9	153.4	165.0	176.6	188.2	200.3	213.0	225.8	238.6	251.3	259.9
82.5°	110.6	122.7	134.8	146.8	158.8	171.2	183.9	196.7	209.4	222.1	231.0
85°	69.0	81.1	93.3	105.4	117.6	130.2	143.2	156.2	169.3	182.3	190.9
87.5°	38.7	50.6	62.6	74.5	86.5	98.8	111.6	124.4	137.1	149.9	158.4
90°	21.7	34.0	46.2	58.5	70.8	83.4	96.4	109.3	122.3	135.3	144.0
92.5°	23.4	33.8	44.4	54.8	65.2	77.0	89.9	102.8	115.8	128.7	137.3
95°	32.8	40.1	47.5	54.9	62.3	71.9	83.8	95.7	107.7	119.6	127.8
97.5°	49.0	58.6	68.2	77.7	87.3	94.4	99.0	103.6	108.2	112.8	120.4
100°	61.6	70.3	78.9	87.6	96.3	101.8	104.3	106.7	109.2	111.6	118.4
102.5°	76.8	84.2	91.6	99.1	106.6	115.2	125.1	135.0	145.0	154.8	150.7
105°	98.4	104.6	110.8	117.0	123.1	131.8	142.8	153.8	164.8	175.9	183.6
107.5°	120.7	125.6	130.6	135.5	140.5	148.2	158.7	169.3	179.9	190.5	197.9
110°	134.9	139.2	143.4	147.7	151.9	159.2	169.7	180.3	190.8	201.3	208.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	148.6	152.5	156.5	160.4	164.4	171.2	181.1	190.9	200.7	210.6	217.0
115°	169.7	172.5	175.4	178.1	180.9	186.9	196.1	205.3	214.5	223.7	230.2
117.5°	190.0	191.8	193.6	195.4	197.2	202.5	211.2	220.0	228.8	237.6	243.5
120°	202.8	203.8	205.0	206.1	207.2	212.0	220.3	228.6	236.9	245.2	251.2
122.5°	215.6	216.0	216.3	216.6	217.0	221.1	229.1	237.2	245.2	253.2	259.0
125°	232.8	232.8	232.8	232.8	232.7	236.3	243.4	250.5	257.6	264.6	270.4
127.5°	250.1	249.9	249.6	249.4	249.2	252.0	257.9	263.7	269.5	275.4	280.5
130°	260.3	260.2	259.9	259.7	259.4	261.7	266.6	271.4	276.2	281.0	286.3
132.5°	270.8	270.5	270.4	270.2	270.0	271.9	275.9	279.8	283.7	287.7	292.8
135°	284.9	284.9	284.9	284.8	284.7	285.8	288.1	290.4	292.7	295.0	299.7
137.5°	298.7	298.5	298.2	298.0	297.7	298.2	299.5	300.8	302.0	303.3	307.6
140°	307.8	307.6	307.4	307.3	307.1	307.2	307.6	308.0	308.5	308.9	312.8
142.5°	314.8	315.0	315.1	315.3	315.4	315.5	315.4	315.3	315.2	315.1	318.5
145°	326.9	326.8	326.7	326.6	326.5	326.4	326.4	326.4	326.4	326.4	328.2
147.5°	336.7	336.8	336.9	337.0	337.0	337.0	337.0	336.9	336.8	336.8	337.0
150°	343.9	343.9	343.8	343.8	343.7	343.7	343.6	343.6	343.5	343.5	343.5
152.5°	348.9	349.0	349.1	349.3	349.4	349.4	349.4	349.2	349.1	349.0	349.1
155°	357.0	357.1	357.1	357.2	357.3	357.2	357.0	356.8	356.6	356.4	356.7
157.5°	364.1	364.0	364.0	363.9	363.9	363.8	363.6	363.4	363.1	363.0	363.3
160°	368.3	368.0	367.9	367.7	367.5	367.4	367.3	367.2	367.1	367.0	367.5
162.5°	371.9	371.7	371.5	371.2	371.0	370.8	370.7	370.6	370.6	370.6	371.0
165°	376.6	376.3	375.9	375.6	375.3	375.1	375.1	375.1	375.1	375.1	375.7
167.5°	380.3	379.9	379.6	379.3	379.0	378.8	378.7	378.7	378.6	378.6	379.2
170°	382.4	382.0	381.6	381.2	380.8	380.7	380.7	380.8	380.8	380.9	381.4
172.5°	383.8	383.4	382.9	382.6	382.2	382.0	382.1	382.2	382.2	382.3	382.8
175°	385.2	384.8	384.5	384.1	383.7	383.5	383.6	383.7	383.8	383.8	384.4
177.5°	386.0	385.6	385.2	384.8	384.5	384.3	384.5	384.6	384.7	384.7	385.2
180°	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1158.5	1160.2	1161.8	1162.5	1162.2	1162.0	1161.8	1161.6
5°	1155.5	1157.8	1160.1	1161.1	1160.8	1160.6	1160.3	1160.0
7.5°	1149.3	1151.9	1154.5	1155.7	1155.4	1155.1	1154.8	1154.5
10°	1143.0	1145.7	1148.3	1149.4	1149.2	1148.8	1148.5	1148.3
12.5°	1134.2	1136.6	1139.0	1140.2	1140.1	1140.0	1140.0	1140.0
15°	1118.3	1121.0	1123.5	1124.7	1124.4	1124.1	1123.8	1123.5
17.5°	1098.9	1101.6	1104.2	1105.5	1105.2	1105.0	1104.7	1104.5
20°	1083.8	1086.6	1089.6	1091.0	1091.0	1091.0	1091.0	1091.0
22.5°	1066.0	1068.9	1071.8	1073.5	1074.0	1074.4	1074.9	1075.4
25°	1038.8	1042.0	1045.1	1046.8	1047.2	1047.4	1047.7	1048.0
27.5°	1008.1	1011.1	1014.0	1015.6	1016.0	1016.4	1016.7	1017.0
30°	986.7	989.9	993.0	994.9	995.5	996.1	996.6	997.3
32.5°	964.7	968.3	972.0	974.1	974.7	975.3	975.8	976.4
35°	929.8	933.8	937.9	940.4	941.3	942.2	943.0	943.9
37.5°	893.5	897.6	901.7	904.2	905.1	906.0	907.0	907.9
40°	867.9	872.3	876.6	879.4	880.5	881.7	882.8	883.9
42.5°	842.8	847.6	852.4	855.2	856.2	857.1	858.0	859.0
45°	804.0	808.9	813.8	817.0	818.5	819.9	821.3	822.8
47.5°	763.0	768.0	773.1	776.5	778.3	780.0	781.7	783.5
50°	734.1	739.9	745.7	749.4	751.2	752.9	754.6	756.4
52.5°	705.0	710.8	716.5	720.3	722.0	723.7	725.5	727.2
55°	661.2	667.0	672.8	676.5	678.2	680.0	681.8	683.5
57.5°	615.2	622.2	629.0	633.2	634.9	636.5	638.1	639.8
60°	583.5	590.2	596.8	601.3	603.6	605.9	608.3	610.6
62.5°	552.3	559.0	565.6	570.1	572.4	574.7	577.0	579.4
65°	503.9	511.2	518.4	523.2	525.5	527.8	530.2	532.5
67.5°	456.6	463.9	471.2	476.1	478.3	480.5	482.8	485.1
70°	423.1	430.9	438.7	443.7	445.6	447.7	449.7	451.8
72.5°	391.4	399.0	406.6	411.5	413.8	416.0	418.2	420.5
75°	343.0	351.1	359.1	364.5	367.1	369.7	372.3	375.0
77.5°	297.9	306.1	314.3	319.8	322.6	325.4	328.2	330.9
80°	268.6	277.3	286.0	291.5	293.8	296.1	298.4	300.8
82.5°	239.9	248.8	257.7	263.5	266.0	268.6	271.1	273.6
85°	199.6	208.3	217.0	222.7	225.7	228.5	231.5	234.3
87.5°	166.9	175.4	183.8	189.3	191.9	194.4	197.1	199.6
90°	152.8	161.5	170.3	175.9	178.4	180.8	183.3	185.7
92.5°	145.9	154.3	162.9	168.4	170.7	173.0	175.4	177.7
95°	136.0	144.2	152.4	157.8	160.5	163.1	165.8	168.5
97.5°	128.0	135.7	143.2	148.4	150.9	153.4	156.0	158.6
100°	125.1	131.8	138.5	142.9	145.0	147.1	149.2	151.2
102.5°	146.5	142.4	138.2	137.2	139.5	141.8	144.1	146.3
105°	191.4	199.3	207.1	211.0	211.0	211.0	211.0	211.0
107.5°	205.3	212.6	220.0	224.9	227.2	229.6	231.9	234.2
110°	214.8	221.6	228.4	233.0	235.5	238.1	240.6	243.0





TEST NUMBER: P332673-930

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

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	223.4	229.8	236.2	240.7	243.2	245.7	248.3	250.9
115°	236.7	243.2	249.6	254.0	255.9	258.0	260.0	262.0
117.5°	249.6	255.5	261.5	265.6	268.0	270.3	272.6	274.8
120°	257.1	263.0	268.9	273.0	275.2	277.4	279.5	281.7
122.5°	264.9	270.8	276.6	280.5	282.5	284.5	286.4	288.4
125°	276.1	281.7	287.4	291.1	292.9	294.7	296.5	298.3
127.5°	285.8	290.9	296.1	299.6	301.5	303.5	305.3	307.3
130°	291.6	296.9	302.1	305.7	307.4	309.1	310.8	312.6
132.5°	297.7	302.8	307.9	311.2	312.9	314.6	316.3	318.0
135°	304.4	309.2	314.0	317.3	319.2	321.0	322.9	324.7
137.5°	312.0	316.3	320.7	323.6	325.0	326.4	327.8	329.2
140°	316.8	320.7	324.7	327.4	329.0	330.4	332.0	333.5
142.5°	322.0	325.4	328.9	331.2	332.4	333.6	334.8	336.1
145°	330.0	331.8	333.6	335.2	336.5	337.8	339.1	340.3
147.5°	337.4	337.6	337.9	338.5	339.6	340.6	341.5	342.5
150°	343.5	343.5	343.5	343.5	343.6	343.6	343.6	343.7
152.5°	349.2	349.3	349.4	349.4	349.4	349.4	349.4	349.3
155°	356.9	357.2	357.4	357.5	357.3	357.1	356.9	356.7
157.5°	363.6	363.9	364.3	364.3	363.9	363.6	363.3	363.0
160°	367.9	368.3	368.6	368.6	368.3	367.9	367.5	367.0
162.5°	371.3	371.7	372.1	372.0	371.6	371.2	370.7	370.3
165°	376.2	376.7	377.2	377.2	376.6	376.0	375.4	374.9
167.5°	379.8	380.3	380.8	380.8	380.2	379.5	378.9	378.3
170°	382.0	382.5	382.9	382.9	382.3	381.6	381.0	380.3
172.5°	383.4	383.8	384.3	384.3	383.6	382.9	382.2	381.5
175°	385.0	385.6	386.1	386.0	385.2	384.5	383.7	382.9
177.5°	385.6	386.0	386.5	386.3	385.7	385.1	384.5	383.8
180°	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2

(END OF REPORT)