

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: P332675-930

Luminaire Tested: **S124DIP-S1195D365U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332675-930
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-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

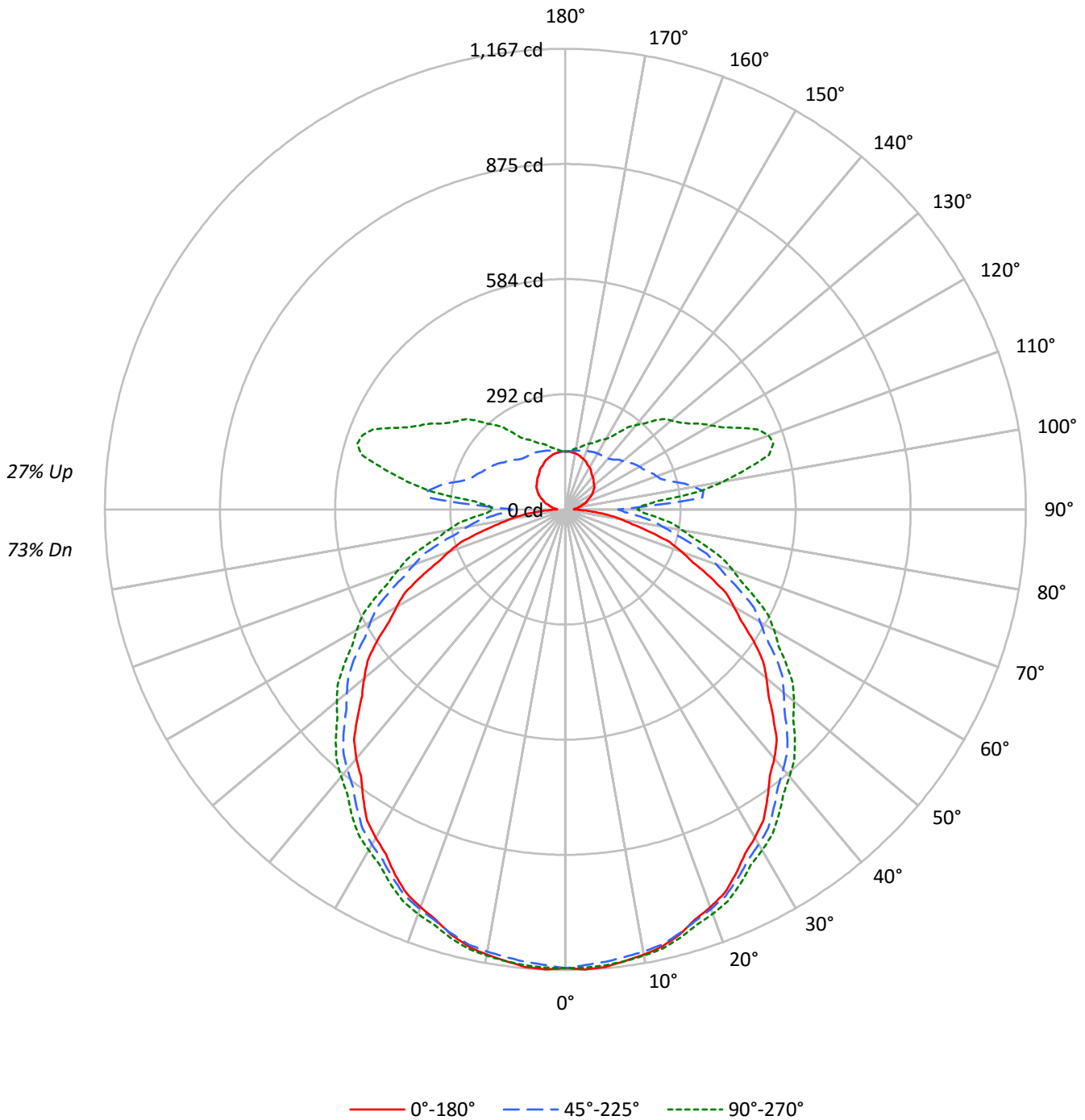
Lumens per Lamp: N/A
Luminaire Lumens: 5030.6 lumens
Efficiency: N/A
Efficacy: 101.0 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

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





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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	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	77	77	77	73	
1	101	96	92	88	96	91	87	84	82	79	76	74	71	69	66	64	62	66	64	62	58	
2	92	83	76	70	87	79	73	67	71	66	62	64	60	56	57	54	51	57	54	51	48	
3	83	73	65	58	79	69	62	56	62	56	51	56	51	47	50	46	43	50	46	43	40	
4	76	64	55	49	72	61	53	47	55	49	43	50	44	40	44	40	37	44	40	37	34	
5	70	57	48	42	66	54	46	40	49	42	37	44	39	34	40	35	32	40	35	32	29	
6	64	51	42	36	61	49	41	35	44	37	32	40	34	30	36	31	28	36	31	28	25	
7	59	46	38	32	56	44	36	31	40	33	28	36	31	26	33	28	24	33	28	24	22	
8	55	42	34	28	52	40	32	27	37	30	25	33	28	24	30	25	22	30	25	22	20	
9	51	38	30	25	49	37	29	24	34	27	23	31	25	21	28	23	20	28	23	20	18	
10	48	35	28	22	46	34	27	22	31	25	20	28	23	19	26	21	18	26	21	18	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	2.2
10°-20°	315.4	6.3
20°-30°	477.0	9.5
30°-40°	577.1	11.5
40°-50°	610.1	12.1
50°-60°	574.2	11.4
60°-70°	476.4	9.5
70°-80°	334.6	6.7
80°-90°	190.0	3.8
90°-100°	218.3	4.3
100°-110°	303.6	6.0
110°-120°	253.3	5.0
120°-130°	197.6	3.9
130°-140°	152.1	3.0
140°-150°	108.6	2.2
150°-160°	74.4	1.5
160°-170°	43.7	0.9
170°-180°	14.2	0.3
0°-30°	902.5	17.9
0°-40°	1479.6	29.4
0°-60°	2663.8	53.0
0°-90°	3664.8	72.8
90°-120°	775.2	15.4
90°-150°	1233.4	24.5
90°-180°	1366.0	27.2
0°-180°	5030.6	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°	21	75	134	171	183	14
95°	26	90	348	263	230	24
105°	45	88	275	524	534	49
115°	67	96	230	413	488	67
125°	88	104	204	336	380	79
135°	101	120	178	276	318	78
145°	114	130	165	214	240	72
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°	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°	38.6	50.5	62.5	74.4	86.2	98.5	111.5	124.2	136.9	149.7	158.0
90°	21.1	33.3	45.7	57.6	69.5	81.4	95.6	108.0	121.1	134.0	142.2
92.5°	23.1	35.0	48.1	62.0	76.6	94.1	121.2	156.0	190.2	214.0	206.9
95°	26.4	36.9	49.2	62.5	79.0	101.8	138.8	197.9	278.6	348.1	362.6
97.5°	32.4	40.6	51.4	63.0	77.1	97.3	128.3	179.1	259.3	352.5	416.1
100°	36.2	43.8	53.3	64.2	77.3	95.9	124.2	168.0	238.1	330.6	412.2
102.5°	40.8	47.9	56.3	66.1	77.9	95.6	122.0	161.7	222.7	305.8	389.5
105°	45.4	52.1	59.3	68.6	79.5	96.1	120.7	155.3	206.4	274.9	349.9
107.5°	53.2	58.5	64.7	73.1	82.8	98.4	121.2	153.1	197.7	254.5	316.9
110°	57.4	62.0	67.5	75.0	84.2	99.1	121.9	152.2	194.0	246.0	299.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	61.4	65.6	70.8	77.6	86.4	100.9	122.7	151.4	190.7	238.6	287.0
115°	67.2	70.6	75.3	80.7	88.8	102.6	123.4	149.9	185.9	229.8	272.4
117.5°	74.5	76.9	80.2	85.0	91.6	104.8	124.4	149.0	181.6	221.7	261.3
120°	78.5	80.0	82.9	86.9	92.7	105.3	124.7	148.1	178.6	216.5	254.2
122.5°	83.2	83.9	86.1	89.2	94.7	106.6	125.5	147.5	176.0	211.0	247.2
125°	87.9	88.8	90.2	93.1	98.2	109.8	127.4	147.9	173.3	204.2	237.3
127.5°	93.0	93.7	95.4	98.7	104.2	115.0	130.5	148.2	169.7	195.7	225.1
130°	95.0	95.8	97.8	101.9	107.0	117.6	132.0	147.9	167.2	190.3	217.4
132.5°	97.9	98.6	101.3	105.1	110.7	120.3	133.9	148.5	165.6	185.9	210.7
135°	100.9	102.0	104.9	109.8	115.9	124.3	135.9	148.3	162.2	178.0	199.3
137.5°	105.1	105.9	108.8	113.2	119.1	126.6	136.5	147.2	158.6	171.9	190.0
140°	108.0	108.7	111.5	116.1	121.9	128.8	137.7	147.2	157.4	168.6	184.7
142.5°	110.2	111.0	114.0	118.5	124.3	130.9	139.1	147.5	156.6	166.5	180.8
145°	114.5	115.1	117.7	121.5	126.6	132.8	140.3	148.1	156.5	165.4	176.3
147.5°	119.7	119.7	121.9	125.8	130.0	135.6	142.6	149.4	156.8	164.4	172.7
150°	122.9	122.9	124.9	128.1	132.1	137.5	143.8	150.1	156.8	163.6	170.9
152.5°	124.8	124.8	127.1	130.3	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°	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°	166.5	175.0	183.4	188.8	191.4	194.0	196.6	199.1
90°	150.8	159.6	168.2	173.6	176.2	178.8	180.8	183.1
92.5°	195.5	189.7	189.1	188.7	187.5	188.3	189.6	191.9
95°	342.4	305.6	274.8	252.0	240.5	234.2	231.5	230.4
97.5°	435.8	426.8	406.2	381.2	363.0	348.1	341.9	338.4
100°	462.1	475.6	469.4	452.9	429.9	414.3	407.7	407.4
102.5°	454.8	491.0	502.6	498.6	485.5	475.1	468.2	468.6
105°	423.1	480.2	515.9	532.6	535.4	535.4	533.7	534.3
107.5°	382.5	442.6	489.9	520.2	536.5	545.2	550.2	552.9
110°	357.5	414.0	462.4	498.6	521.4	535.8	543.3	548.2



TEST NUMBER: P332675-930

CATALOG NUMBER: S124DIP-S1195D365U930-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	337.3	387.8	433.7	469.8	495.3	512.3	521.9	528.4
115°	314.8	356.6	396.7	428.5	453.3	472.6	483.9	488.2
117.5°	299.1	334.5	367.0	394.7	416.4	433.3	444.9	449.0
120°	290.2	322.9	351.7	376.2	394.9	409.9	419.7	425.2
122.5°	282.3	314.0	340.7	362.6	378.5	391.4	399.9	405.1
125°	270.4	300.8	326.1	345.6	358.9	368.9	376.2	379.6
127.5°	256.3	285.2	310.2	328.9	342.4	351.8	358.4	362.1
130°	246.5	274.5	299.3	318.0	331.6	340.5	346.8	350.3
132.5°	237.0	263.4	287.5	306.1	319.4	329.3	335.4	338.9
135°	222.1	245.5	267.7	285.3	298.5	308.3	314.7	318.1
137.5°	209.3	229.3	248.3	264.2	276.5	285.8	291.1	294.6
140°	201.7	219.1	235.8	250.5	262.0	269.8	275.2	279.0
142.5°	195.5	210.8	225.2	237.9	248.0	255.1	259.9	262.8
145°	187.3	198.9	209.2	218.7	227.1	233.2	237.2	239.8
147.5°	180.6	188.6	195.8	202.6	208.9	214.0	217.1	218.6
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)