

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: P331680

Luminaire Tested: **SA2XXRDIP-C675D330U835-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331680
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C675D330U835-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

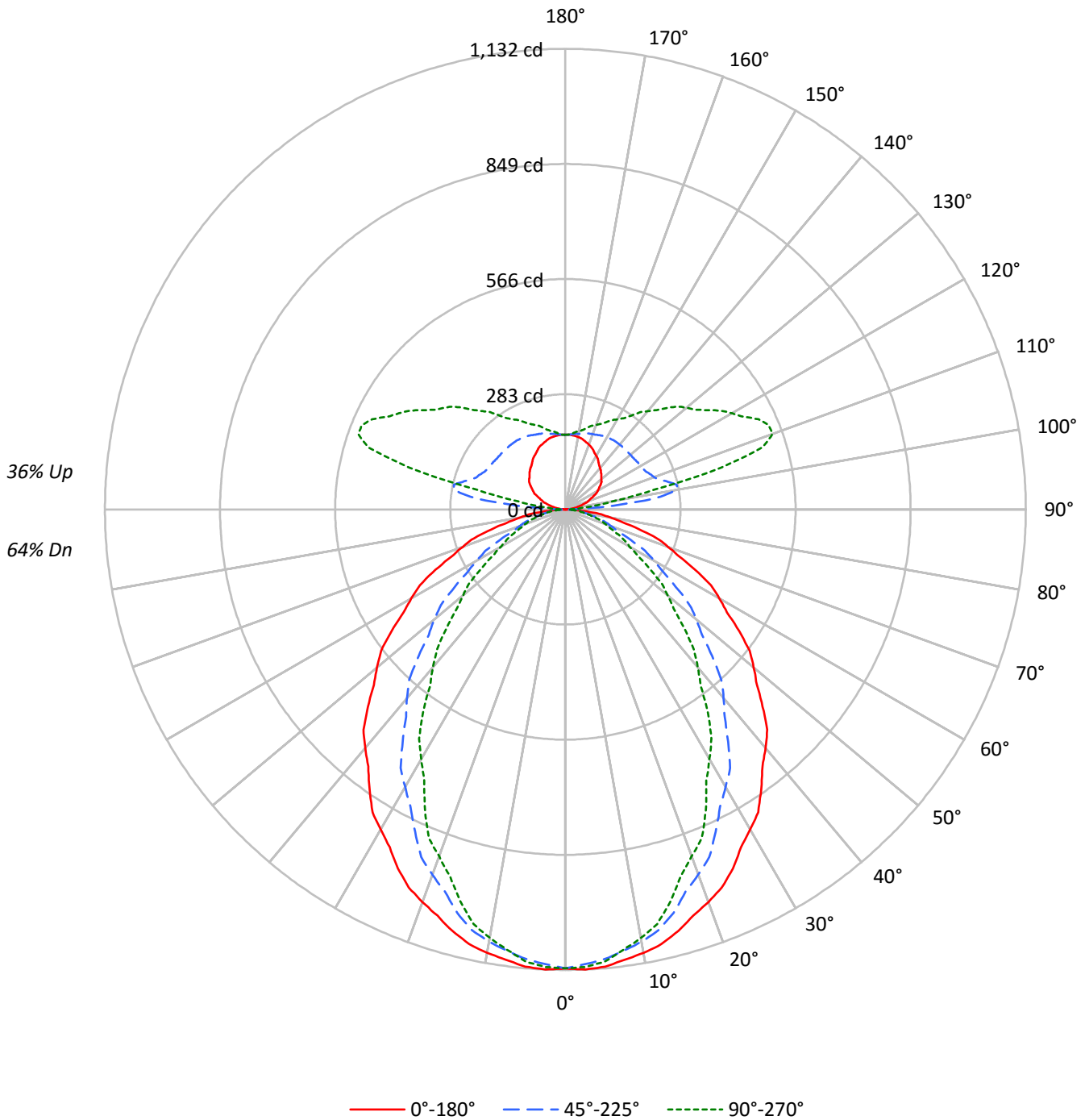
Lumens per Lamp: N/A
Luminaire Lumens: 3600.3 lumens
Efficiency: N/A
Efficacy: 102.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 35
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	111	111	111	111	104	104	104	104	91	91	91	80	80	80	69	69	69	64				
1	102	97	94	90	95	92	88	86	81	79	76	71	70	68	62	61	60	56				
2	93	86	80	75	87	81	76	71	72	68	64	63	60	58	56	53	51	48				
3	85	76	69	63	80	72	65	60	64	59	55	57	53	50	50	47	44	41				
4	78	68	60	54	74	64	57	52	57	52	47	51	47	43	45	42	39	36				
5	72	61	53	47	68	58	50	45	52	46	41	46	41	38	41	37	34	31				
6	67	55	47	41	63	52	45	40	47	41	36	42	37	33	37	33	31	28				
7	62	50	42	36	58	47	40	35	43	37	32	38	34	30	34	30	27	25				
8	58	46	38	33	54	43	36	31	39	33	29	35	30	27	32	28	25	23				
9	54	42	34	29	51	40	33	28	36	30	26	33	28	24	29	25	23	21				
10	51	39	31	26	48	37	30	26	33	28	24	30	26	22	27	23	21	19				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18213	18213	18213
5°	18282	17985	18084
10°	18143	17690	17539
15°	17934	17167	16672
20°	17646	16417	15593
25°	17350	15567	14549
30°	16940	14693	13209
35°	16539	13742	12033
40°	16136	12760	10671
45°	15664	11654	9439
50°	15179	10540	8231
55°	14686	9340	7068
60°	14108	8076	5867
65°	13456	6785	5345
70°	12675	5589	4914
75°	11715	5097	4585
80°	10349	4556	4175
85°	8133	3594	3594



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.6	2.9
10°-20°	289.9	8.1
20°-30°	407.1	11.3
30°-40°	443.9	12.3
40°-50°	408.2	11.3
50°-60°	320.6	8.9
60°-70°	209.0	5.8
70°-80°	107.8	3.0
80°-90°	29.6	0.8
90°-100°	73.5	2.0
100°-110°	249.3	6.9
110°-120°	264.8	7.4
120°-130°	218.0	6.1
130°-140°	175.1	4.9
140°-150°	132.3	3.7
150°-160°	93.0	2.6
160°-170°	54.7	1.5
170°-180°	17.8	0.5
0°-30°	802.6	22.3
0°-40°	1246.6	34.6
0°-60°	1975.3	54.9
0°-90°	2321.7	64.5
90°-120°	587.6	16.3
90°-150°	1113.0	30.9
90°-180°	1279.0	35.5
0°-180°	3600.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1128	1128	1128	1128	1128	
5°	1128	1122	1110	1118	1116	107
15°	1073	1060	1027	1008	997	302
25°	974	939	874	833	817	448
35°	839	785	697	635	610	525
45°	686	615	510	441	413	529
55°	522	440	332	273	251	466
65°	352	269	178	145	140	349
75°	188	118	82	75	74	199
85°	44	23	19	19	19	52
90°	0	5	12	12	12	2
95°	12	30	138	52	40	13
105°	43	65	262	468	398	46
115°	76	96	219	452	524	75
125°	106	125	211	366	425	94
135°	124	148	208	308	352	96
145°	142	163	207	257	281	89
155°	162	174	201	227	236	74
165°	176	181	193	204	207	50
175°	183	184	185	187	187	17
180°	184	184	184	184	184	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0
2.5°	1132.1	1131.2	1130.3	1129.4	1128.5	1127.0	1125.0	1123.0	1121.1	1119.1	1120.9
5°	1128.0	1126.9	1125.8	1124.6	1123.5	1121.5	1118.5	1115.6	1112.6	1109.7	1111.7
7.5°	1116.4	1115.0	1113.6	1112.2	1110.8	1108.3	1104.9	1101.5	1098.0	1094.6	1095.1
10°	1106.6	1105.0	1103.4	1101.8	1100.2	1097.2	1092.6	1088.1	1083.6	1079.0	1078.4
12.5°	1094.3	1092.4	1090.4	1088.5	1086.5	1082.7	1076.9	1071.1	1065.2	1059.4	1058.2
15°	1072.9	1070.4	1067.9	1065.4	1062.9	1057.8	1050.1	1042.4	1034.7	1027.0	1022.7
17.5°	1046.6	1042.8	1039.0	1035.1	1031.3	1024.5	1014.6	1004.7	994.8	984.9	979.8
20°	1027.0	1022.4	1017.9	1013.4	1008.8	1000.9	989.5	978.2	966.9	955.5	949.8
22.5°	1005.7	1000.7	995.6	990.5	985.4	976.5	963.7	950.9	938.1	925.3	918.0
25°	973.9	966.6	959.4	952.1	944.9	933.7	918.8	903.8	888.8	873.8	864.5
27.5°	935.5	927.6	919.7	911.8	903.9	891.5	874.7	857.8	840.9	824.0	813.2
30°	908.6	899.9	891.3	882.7	874.1	860.7	842.5	824.4	806.2	788.1	776.5
32.5°	882.4	872.3	862.3	852.2	842.1	827.8	809.3	790.8	772.3	753.8	740.6
35°	839.1	827.6	816.0	804.4	792.9	777.1	757.1	737.2	717.2	697.2	682.9
37.5°	795.9	783.1	770.4	757.7	745.0	728.0	706.8	685.5	664.2	642.9	627.2
40°	765.6	752.0	738.4	724.8	711.2	693.4	671.4	649.4	627.4	605.4	589.3
42.5°	734.6	720.3	705.9	691.6	677.3	658.7	636.0	613.3	590.5	567.8	551.1
45°	686.0	670.8	655.6	640.4	625.2	605.7	581.9	558.1	534.2	510.4	494.3
47.5°	638.6	622.5	606.4	590.3	574.2	553.9	529.3	504.7	480.1	455.5	439.5
50°	604.3	588.2	572.1	556.0	539.9	519.4	494.4	469.5	444.5	419.6	403.9
52.5°	570.9	554.0	537.2	520.4	503.5	482.9	458.5	434.1	409.7	385.3	370.2
55°	521.7	504.0	486.3	468.6	450.9	429.8	405.3	380.8	356.3	331.8	318.2
57.5°	471.2	453.1	434.9	416.8	398.6	377.8	354.2	330.7	307.1	283.6	271.1
60°	436.9	418.8	400.6	382.5	364.3	343.6	320.2	296.8	273.5	250.1	238.5
62.5°	403.4	385.3	367.1	349.0	330.8	310.6	288.4	266.1	243.8	221.5	210.5
65°	352.2	333.8	315.4	297.1	278.7	259.3	238.9	218.5	198.0	177.6	169.9
67.5°	302.8	284.5	266.3	248.1	229.8	211.5	193.1	174.8	156.4	138.0	134.5
70°	268.5	250.8	233.1	215.4	197.7	181.0	165.4	149.7	134.1	118.4	116.1
72.5°	235.8	218.8	201.9	184.9	167.9	153.2	140.6	128.0	115.5	102.9	101.0
75°	187.8	172.0	156.1	140.2	124.3	112.5	104.8	97.1	89.4	81.7	80.1
77.5°	140.7	126.7	112.8	98.9	85.0	76.1	72.4	68.7	65.0	61.3	60.3
80°	111.3	99.7	88.1	76.6	65.0	58.1	55.8	53.5	51.3	49.0	48.1
82.5°	84.3	75.3	66.3	57.2	48.2	42.9	41.4	39.8	38.3	36.8	36.2
85°	43.9	39.1	34.4	29.6	24.8	22.1	21.4	20.8	20.1	19.4	19.4
87.5°	13.1	11.9	10.7	9.4	8.1	7.6	7.9	8.4	8.9	8.9	8.7
90°	0.4	1.4	2.8	3.5	4.2	5.3	7.1	9.5	11.7	12.0	11.7
92.5°	4.3	6.2	8.8	10.3	12.7	16.0	24.0	35.3	45.3	45.9	38.8
95°	12.4	13.8	17.3	20.5	26.1	34.6	50.9	81.6	122.6	138.5	121.2
97.5°	20.1	22.0	25.8	30.6	37.1	46.7	67.1	110.0	178.1	236.4	248.0
100°	27.2	28.3	31.4	37.1	44.2	54.1	72.8	115.9	192.2	279.1	330.0
102.5°	33.7	34.5	37.7	43.3	50.7	60.6	77.9	116.2	186.8	280.5	360.5
105°	43.1	44.5	47.0	52.3	60.1	70.0	86.6	118.0	176.3	261.8	355.8
107.5°	53.3	54.4	56.8	61.7	69.4	79.4	95.5	122.9	171.1	241.7	324.8
110°	60.1	61.5	63.6	68.2	75.6	85.9	101.4	126.8	170.0	232.1	305.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	66.3	67.7	70.1	74.4	81.5	92.1	107.1	131.1	170.2	225.9	291.7
115°	76.0	77.7	79.9	84.1	91.2	100.7	115.9	137.4	171.7	219.1	274.9
117.5°	86.0	87.4	89.5	93.3	100.1	110.0	124.0	144.2	174.3	215.7	264.3
120°	92.2	93.6	95.8	98.9	106.0	115.9	129.7	148.8	176.0	213.8	258.6
122.5°	98.2	99.3	101.4	104.9	111.9	122.1	135.0	152.7	177.9	212.6	253.8
125°	106.0	107.1	109.2	113.4	120.5	130.4	143.1	159.0	180.9	210.6	247.0
127.5°	112.2	113.6	116.6	121.3	128.0	138.2	150.6	164.9	183.9	209.4	240.6
130°	115.9	117.3	120.8	125.8	132.9	142.7	155.1	168.5	186.2	208.8	236.4
132.5°	119.3	121.0	124.8	130.0	137.4	147.3	159.1	172.2	188.5	208.5	233.0
135°	124.4	125.8	130.0	135.3	143.5	153.3	164.7	177.0	191.2	208.1	228.2
137.5°	129.2	130.9	135.1	140.8	148.8	158.0	169.2	180.7	193.6	208.0	224.9
140°	132.9	134.3	138.5	144.2	151.9	161.1	171.7	182.7	194.7	207.8	222.9
142.5°	136.5	137.7	141.6	147.3	154.8	163.4	173.7	184.4	195.5	207.8	221.0
145°	142.0	143.5	147.0	152.3	159.4	167.1	176.7	186.6	196.4	207.0	218.4
147.5°	148.0	149.0	152.4	157.3	163.2	170.1	179.1	187.8	196.7	205.8	215.7
150°	151.9	153.0	155.8	160.4	165.7	172.1	180.2	188.3	196.4	204.9	213.4
152.5°	155.9	156.4	159.2	163.2	168.3	174.0	181.3	188.6	195.9	203.5	211.4
155°	161.5	161.8	163.9	167.8	171.7	177.0	183.0	189.0	195.0	201.0	207.8
157.5°	166.1	166.5	168.2	171.6	174.7	179.1	184.2	189.0	193.4	198.5	204.3
160°	169.2	169.6	171.0	173.8	176.7	180.6	184.8	189.0	192.6	196.8	201.7
162.5°	172.4	172.1	173.6	175.8	178.4	181.4	185.1	188.7	191.7	195.4	199.5
165°	176.0	175.6	176.3	178.4	180.2	182.3	185.5	188.0	190.1	192.6	195.7
167.5°	178.9	178.5	179.1	180.5	181.8	183.1	185.4	187.5	188.5	190.1	192.1
170°	180.9	180.2	180.6	181.6	182.3	183.4	185.1	186.9	187.6	188.7	190.1
172.5°	182.0	181.6	181.4	182.5	182.9	183.7	184.9	186.1	186.5	187.0	188.1
175°	183.4	183.0	182.7	183.4	183.4	183.7	184.4	185.1	184.8	185.1	185.5
177.5°	184.0	183.4	183.2	183.7	183.7	183.7	184.0	184.6	184.0	183.7	184.0
180°	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0
2.5°	1122.7	1124.5	1126.3	1127.0	1126.7	1126.3	1126.0	1125.6
5°	1113.7	1115.8	1117.8	1118.5	1117.8	1117.1	1116.5	1115.8
7.5°	1095.7	1096.3	1096.9	1096.6	1095.4	1094.3	1093.1	1091.9
10°	1077.7	1077.0	1076.3	1075.3	1073.9	1072.6	1071.2	1069.8
12.5°	1057.0	1055.8	1054.5	1052.8	1050.5	1048.3	1046.0	1043.7
15°	1018.4	1014.0	1009.7	1006.4	1004.2	1001.9	999.6	997.4
17.5°	974.7	969.5	964.4	959.9	956.0	952.1	948.2	944.3
20°	944.2	938.5	932.8	927.5	922.5	917.5	912.5	907.5
22.5°	910.7	903.4	896.1	890.6	886.8	883.1	879.4	875.7
25°	855.2	845.9	836.6	830.3	826.9	823.5	820.1	816.7
27.5°	802.3	791.5	780.7	772.5	767.1	761.7	756.3	750.9
30°	765.0	753.4	741.8	733.0	726.8	720.7	714.6	708.5
32.5°	727.4	714.2	701.0	691.5	685.7	680.0	674.2	668.5
35°	668.7	654.4	640.1	630.4	625.4	620.4	615.5	610.5
37.5°	611.4	595.7	580.0	569.2	563.5	557.8	552.1	546.4
40°	573.1	557.0	540.9	529.9	524.0	518.1	512.2	506.3
42.5°	534.5	517.8	501.2	490.0	484.3	478.6	472.9	467.1
45°	478.2	462.1	446.0	435.2	429.8	424.3	418.9	413.4
47.5°	423.5	407.5	391.4	381.0	376.0	371.1	366.1	361.2
50°	388.3	372.6	357.0	346.7	342.0	337.2	332.5	327.7
52.5°	355.1	339.9	324.8	315.1	310.7	306.3	301.9	297.5
55°	304.6	290.9	277.3	268.4	264.1	259.7	255.4	251.1
57.5°	258.6	246.2	233.7	225.6	222.0	218.4	214.7	211.1
60°	227.0	215.4	203.8	196.2	192.6	189.0	185.3	181.7
62.5°	199.5	188.4	177.4	170.8	168.6	166.5	164.3	162.1
65°	162.2	154.5	146.8	142.6	141.9	141.2	140.5	139.9
67.5°	130.9	127.4	123.9	121.7	121.0	120.3	119.6	118.8
70°	113.9	111.6	109.3	107.8	106.8	105.9	105.0	104.1
72.5°	99.1	97.2	95.3	94.1	93.5	93.0	92.4	91.9
75°	78.5	76.9	75.3	74.4	74.2	74.0	73.7	73.5
77.5°	59.4	58.5	57.6	57.0	56.6	56.3	55.9	55.5
80°	47.2	46.3	45.4	44.9	44.9	44.9	44.9	44.9
82.5°	35.7	35.1	34.6	34.3	34.3	34.3	34.3	34.3
85°	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
87.5°	8.4	8.1	8.1	8.0	8.0	8.0	8.0	8.0
90°	11.3	10.6	11.3	11.7	11.7	11.7	11.7	11.7
92.5°	30.8	26.4	23.5	21.3	21.0	19.9	20.1	19.6
95°	92.6	71.0	56.2	48.4	43.8	41.0	39.9	40.3
97.5°	216.0	176.7	138.5	113.0	96.1	87.4	82.3	79.3
100°	322.6	278.8	230.4	187.6	158.3	143.1	132.9	126.5
102.5°	392.4	382.5	347.1	301.8	269.9	244.0	231.2	222.6
105°	429.3	469.2	473.8	462.2	440.2	418.3	403.1	398.2
107.5°	402.7	462.9	499.6	516.7	519.5	518.3	515.2	508.7
110°	379.8	443.1	488.3	517.3	532.5	539.2	542.4	542.0



TEST NUMBER: P331680

CATALOG NUMBER: SA2XXRDIP-C675D330U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	358.9	419.6	467.9	501.2	522.3	533.5	539.5	541.4
115°	333.2	387.6	433.9	470.3	495.4	511.6	520.8	524.0
117.5°	313.8	361.6	403.6	437.7	463.3	480.5	490.1	492.8
120°	304.2	348.0	385.5	417.6	442.4	459.0	469.2	472.8
122.5°	296.6	336.7	372.2	401.2	423.4	439.8	448.9	451.8
125°	285.5	321.9	353.0	379.5	400.0	413.4	422.2	425.1
127.5°	274.5	307.5	336.8	361.2	379.1	391.7	399.3	401.6
130°	267.5	297.9	325.8	349.1	366.4	378.4	385.5	388.3
132.5°	260.7	288.8	314.5	336.4	353.4	365.4	371.9	374.5
135°	251.2	274.5	297.9	317.6	332.8	344.5	350.9	352.3
137.5°	243.7	263.2	281.7	298.9	312.8	322.8	328.4	330.5
140°	238.8	255.8	272.1	287.6	298.9	308.1	313.4	315.5
142.5°	234.9	249.3	263.3	276.3	287.0	295.4	300.1	300.5
145°	229.3	241.0	251.9	262.2	270.6	276.7	280.2	281.2
147.5°	225.0	234.2	242.7	250.2	257.2	262.0	264.4	265.1
150°	221.9	229.7	237.1	243.4	248.7	253.0	255.1	255.5
152.5°	218.8	226.0	232.3	237.8	242.0	245.6	247.2	247.3
155°	214.5	220.1	225.4	229.3	233.2	235.7	237.1	236.4
157.5°	209.5	214.2	218.6	221.7	224.4	226.5	227.1	227.1
160°	206.3	210.2	214.1	216.6	219.1	220.8	221.2	221.2
162.5°	203.2	206.6	209.9	211.8	214.3	215.5	215.8	215.5
165°	198.6	201.0	203.5	204.9	206.3	207.8	207.8	207.4
167.5°	194.1	196.0	197.7	199.0	199.6	200.4	200.3	199.9
170°	191.9	192.9	194.3	195.0	195.4	196.4	196.1	195.4
172.5°	189.3	190.1	191.2	191.6	192.0	192.5	192.1	191.7
175°	186.6	186.9	187.3	187.6	187.6	188.0	187.6	186.9
177.5°	184.6	184.6	184.9	184.9	184.9	184.9	184.6	184.0
180°	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7

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