

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: P331460-935

Luminaire Tested: **SA2XXDIP-C1005D1080U935-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331460-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C1005D1080U935-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6792.1 lumens
Efficiency: N/A
Efficacy: 94.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

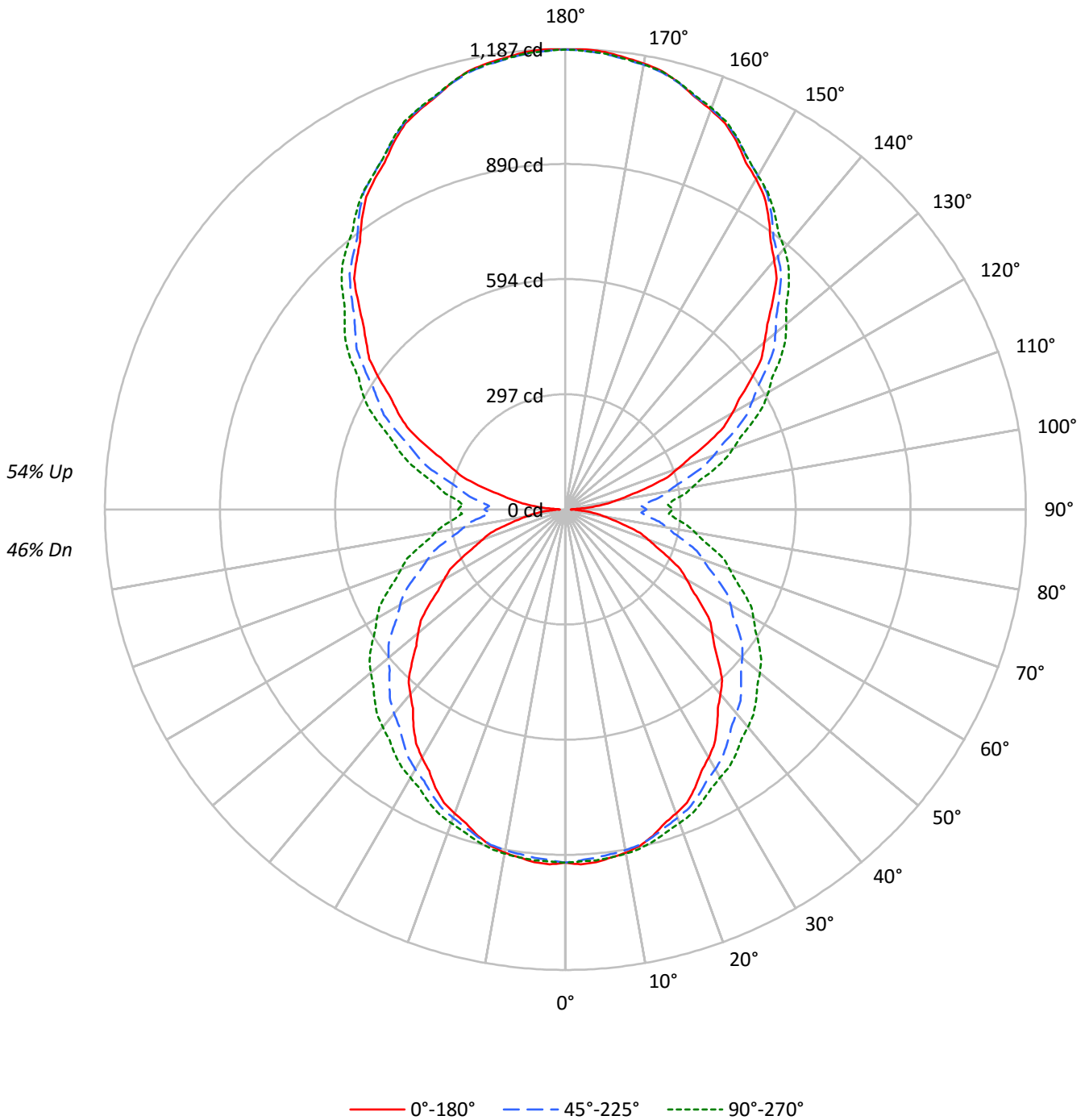
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	46
1	95	91	86	82	87	83	79	76	69	66	63	56	54	52	44	42	41	35
2	86	78	72	66	79	72	66	61	59	55	51	48	45	42	38	36	34	29
3	78	68	61	54	71	63	56	50	52	47	43	42	38	35	33	30	28	24
4	71	60	52	45	65	55	48	42	46	40	36	37	33	30	29	26	24	20
5	65	53	45	39	60	49	42	36	41	35	31	33	29	25	26	23	20	17
6	60	48	39	33	55	44	36	31	37	31	27	30	26	22	24	20	18	15
7	56	43	35	29	51	40	32	27	33	27	23	27	23	19	21	18	16	13
8	51	39	31	25	47	36	29	24	30	24	20	25	20	17	20	16	14	12
9	48	35	28	23	44	33	26	21	28	22	18	23	18	15	18	15	13	10
10	45	32	25	20	41	30	23	19	25	20	16	21	17	14	17	14	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14699	14699	14699
5°	14772	14150	14097
10°	14679	13733	13578
15°	14477	13289	13032
20°	14222	12815	12506
25°	13968	12358	12028
30°	13612	11889	11549
35°	13253	11434	11211
40°	12874	11047	10874
45°	12515	10702	10584
50°	12128	10388	10300
55°	11724	10052	10011
60°	11226	9702	9705
65°	10711	9294	9342
70°	10136	8856	8949
75°	9394	8423	8587
80°	8224	7984	8220
85°	7107	7603	7937



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.3	1.3
10°-20°	247.4	3.6
20°-30°	374.9	5.5
30°-40°	456.6	6.7
40°-50°	491.2	7.2
50°-60°	477.0	7.0
60°-70°	416.5	6.1
70°-80°	320.7	4.7
80°-90°	219.9	3.2
90°-100°	223.4	3.3
100°-110°	341.5	5.0
110°-120°	470.2	6.9
120°-130°	564.2	8.3
130°-140°	605.2	8.9
140°-150°	579.9	8.5
150°-160°	484.0	7.1
160°-170°	321.0	4.7
170°-180°	112.2	1.7
0°-30°	708.5	10.4
0°-40°	1165.2	17.2
0°-60°	2133.4	31.4
0°-90°	3090.6	45.5
90°-120°	1035.1	15.2
90°-150°	2784.4	41.0
90°-180°	3701.0	54.5
0°-180°	6792.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	910	910	910	910	910	
5°	913	909	901	909	908	87
15°	871	873	874	885	884	245
25°	792	801	813	828	833	364
35°	682	705	730	758	768	426
45°	560	596	641	681	695	432
55°	429	478	545	591	610	383
65°	293	358	435	488	507	291
75°	162	237	321	375	394	172
85°	48	129	214	267	288	51
90°	14	104	209	258	277	12
95°	63	135	216	264	280	68
105°	222	264	334	380	396	235
115°	405	428	483	520	533	400
125°	585	595	633	664	676	523
135°	754	766	781	806	815	583
145°	914	921	927	936	939	571
155°	1045	1048	1051	1056	1053	481
165°	1137	1136	1136	1142	1138	321
175°	1183	1180	1178	1184	1179	112
180°	1185	1185	1185	1185	1185	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4
2.5°	915.8	915.1	914.3	913.6	912.9	911.7	910.1	908.4	906.8	905.2	906.4
5°	913.1	912.2	911.4	910.4	909.6	908.3	906.5	904.7	903.0	901.2	903.0
7.5°	904.9	904.3	903.7	903.2	902.6	901.6	900.3	898.9	897.6	896.2	898.3
10°	898.6	898.0	897.4	896.8	896.2	895.5	894.7	893.7	892.9	892.0	894.3
12.5°	888.0	888.1	888.3	888.4	888.5	888.2	887.6	886.9	886.3	885.6	888.0
15°	870.9	871.5	872.0	872.6	873.2	873.5	873.5	873.5	873.5	873.5	876.2
17.5°	848.7	850.0	851.2	852.4	853.6	854.7	855.7	856.6	857.6	858.5	861.3
20°	834.0	835.4	836.9	838.4	839.8	841.1	842.3	843.4	844.6	845.8	849.0
22.5°	818.1	819.8	821.5	823.2	824.9	826.6	828.2	829.8	831.5	833.1	836.4
25°	791.7	793.8	795.8	797.9	800.0	802.3	804.9	807.5	810.2	812.8	816.3
27.5°	760.0	763.4	766.7	770.1	773.4	776.6	779.7	782.8	785.9	789.1	793.5
30°	738.9	742.7	746.6	750.4	754.1	758.0	761.8	765.6	769.4	773.3	777.9
32.5°	715.7	720.0	724.3	728.6	732.8	737.2	741.8	746.2	750.8	755.3	760.7
35°	682.2	687.2	692.2	697.2	702.1	707.4	713.0	718.5	724.1	729.7	736.2
37.5°	645.8	651.5	657.3	663.0	668.7	675.2	682.4	689.7	696.9	704.1	711.3
40°	621.5	627.9	634.4	640.8	647.3	654.4	662.4	670.3	678.2	686.1	693.8
42.5°	598.3	604.7	611.1	617.6	624.1	631.8	640.9	650.1	659.1	668.2	676.5
45°	559.5	567.4	575.3	583.2	591.2	600.2	610.5	620.8	631.0	641.3	650.4
47.5°	521.2	529.9	538.5	547.1	555.7	566.0	578.1	590.0	602.1	614.1	623.6
50°	494.8	503.9	513.0	522.1	531.2	542.3	555.5	568.7	581.9	595.1	605.1
52.5°	469.5	479.1	488.6	498.2	507.7	519.4	533.3	547.3	561.1	575.1	585.2
55°	428.9	439.4	450.0	460.5	471.1	484.0	499.2	514.4	529.7	544.9	555.5
57.5°	388.7	400.6	412.5	424.5	436.4	450.0	465.6	481.1	496.7	512.2	523.6
60°	360.2	372.8	385.5	398.0	410.7	425.3	442.0	458.7	475.4	492.1	503.3
62.5°	334.9	347.9	361.0	374.1	387.2	402.1	418.8	435.5	452.3	469.0	480.8
65°	292.9	307.3	321.7	336.0	350.4	366.3	383.6	400.8	418.1	435.4	447.5
67.5°	254.4	269.4	284.4	299.5	314.4	330.8	348.5	366.3	383.9	401.7	413.8
70°	227.0	242.2	257.4	272.7	287.9	304.6	322.9	341.0	359.2	377.4	389.9
72.5°	201.6	217.3	233.1	248.7	264.5	281.5	300.0	318.4	336.8	355.2	367.6
75°	162.3	178.7	195.1	211.5	228.0	245.6	264.3	283.1	301.9	320.6	333.2
77.5°	124.3	141.5	158.7	175.8	193.0	211.1	230.2	249.3	268.3	287.4	300.0
80°	98.9	116.8	134.7	152.7	170.5	189.0	208.0	227.1	246.2	265.2	277.5
82.5°	77.8	95.5	113.1	130.8	148.4	166.9	186.2	205.5	224.8	244.1	256.4
85°	47.5	65.7	83.9	102.0	120.2	138.7	157.5	176.2	195.0	213.8	226.1
87.5°	26.1	44.1	62.1	80.1	98.1	117.0	136.7	156.4	176.2	196.0	207.8
90°	14.2	33.8	53.6	73.2	92.9	114.6	138.2	161.9	185.5	209.1	220.5
92.5°	30.0	47.7	65.5	83.3	101.1	119.6	138.8	158.1	177.3	196.5	208.1
95°	62.6	78.6	94.5	110.6	126.6	143.6	161.6	179.7	197.7	215.8	226.9
97.5°	104.3	118.5	132.7	146.9	161.1	177.1	194.8	212.6	230.3	248.0	258.8
100°	136.2	148.9	161.5	174.1	186.8	201.6	218.7	235.8	252.9	270.0	280.9
102.5°	168.8	180.1	191.5	202.8	214.1	228.2	245.0	261.8	278.6	295.4	306.2
105°	221.6	230.8	240.0	249.2	258.3	270.7	286.5	302.1	317.8	333.5	344.2
107.5°	276.2	284.0	291.7	299.5	307.3	318.5	333.1	347.7	362.3	376.9	386.9
110°	310.3	317.5	324.7	331.9	339.1	349.9	364.3	378.7	393.0	407.3	416.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	348.7	355.0	361.3	367.5	373.8	383.7	397.1	410.6	424.1	437.6	446.4
115°	405.4	409.9	414.5	419.0	423.5	432.2	445.0	457.7	470.5	483.2	491.8
117.5°	460.4	464.3	468.2	472.1	476.0	483.4	494.4	505.3	516.3	527.2	535.4
120°	498.0	500.9	503.9	506.9	509.8	516.3	526.2	536.1	546.1	556.1	564.3
122.5°	532.4	535.0	537.6	540.2	542.9	549.1	558.8	568.6	578.3	588.1	595.6
125°	584.7	586.7	588.8	590.7	592.7	598.1	606.7	615.5	624.2	632.9	640.2
127.5°	636.9	639.1	641.4	643.6	645.8	650.4	657.1	663.9	670.7	677.4	683.9
130°	669.7	672.4	674.9	677.5	680.1	684.2	690.0	695.7	701.4	707.1	713.7
132.5°	706.5	708.6	710.7	712.7	714.8	718.2	723.1	727.9	732.7	737.6	743.4
135°	754.4	756.8	759.3	761.7	764.2	767.1	770.5	773.9	777.2	780.6	786.5
137.5°	806.2	808.1	810.1	812.0	814.0	815.9	817.8	819.6	821.5	823.4	828.5
140°	837.4	839.1	840.9	842.6	844.2	845.9	847.7	849.4	851.0	852.7	857.5
142.5°	869.4	871.2	872.9	874.5	876.2	877.5	878.4	879.3	880.2	881.1	884.9
145°	914.1	915.7	917.2	918.8	920.3	921.8	923.1	924.5	925.7	927.1	929.1
147.5°	955.1	957.0	958.8	960.7	962.6	964.0	964.8	965.8	966.6	967.5	968.3
150°	983.1	984.5	985.8	987.1	988.4	989.5	990.5	991.4	992.2	993.2	993.8
152.5°	1007.9	1009.3	1010.6	1011.9	1013.2	1014.4	1015.5	1016.6	1017.7	1018.7	1019.6
155°	1045.2	1045.8	1046.5	1047.1	1047.8	1048.4	1049.1	1049.8	1050.5	1051.1	1052.2
157.5°	1076.9	1077.4	1077.8	1078.2	1078.7	1079.1	1079.5	1080.0	1080.3	1080.7	1082.3
160°	1096.1	1096.6	1097.0	1097.4	1097.9	1098.2	1098.5	1098.7	1098.9	1099.2	1100.4
162.5°	1113.7	1113.8	1113.9	1114.0	1114.1	1114.2	1114.5	1114.7	1114.9	1115.2	1116.6
165°	1137.1	1137.0	1136.7	1136.4	1136.3	1136.2	1136.2	1136.2	1136.2	1136.2	1137.7
167.5°	1156.8	1156.1	1155.4	1154.8	1154.1	1153.7	1153.7	1153.7	1153.6	1153.6	1155.1
170°	1167.2	1166.5	1165.8	1165.1	1164.5	1164.1	1163.8	1163.6	1163.4	1163.1	1164.7
172.5°	1174.3	1173.7	1173.0	1172.3	1171.6	1171.2	1171.0	1170.8	1170.5	1170.4	1171.9
175°	1183.2	1182.5	1181.8	1181.1	1180.5	1179.9	1179.5	1179.1	1178.6	1178.1	1179.7
177.5°	1186.7	1186.2	1185.7	1185.2	1184.6	1184.1	1183.8	1183.4	1183.1	1182.8	1183.8
180°	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4
2.5°	907.5	908.7	909.9	910.2	909.7	909.3	908.8	908.4
5°	904.7	906.5	908.3	909.0	908.7	908.4	908.1	907.8
7.5°	900.4	902.6	904.7	905.6	905.3	905.0	904.7	904.4
10°	896.6	899.1	901.4	902.4	902.1	901.8	901.6	901.2
12.5°	890.4	892.7	895.0	896.0	895.8	895.4	895.2	894.9
15°	878.8	881.4	884.1	885.3	884.9	884.7	884.3	884.1
17.5°	864.0	866.8	869.5	870.9	870.9	870.9	870.9	870.9
20°	852.2	855.5	858.7	860.3	860.3	860.3	860.3	860.3
22.5°	839.6	842.8	846.0	847.9	848.3	848.9	849.3	849.8
25°	819.8	823.4	826.9	829.1	830.0	830.9	831.7	832.6
27.5°	798.0	802.5	806.9	809.4	810.1	810.7	811.4	812.0
30°	782.6	787.3	792.0	794.8	795.7	796.5	797.5	798.3
32.5°	766.1	771.5	776.9	780.3	782.0	783.5	785.1	786.7
35°	742.6	749.1	755.5	759.7	761.8	763.9	765.9	767.9
37.5°	718.4	725.6	732.7	737.4	739.5	741.8	743.9	746.1
40°	701.4	709.0	716.6	721.8	724.4	727.0	729.7	732.4
42.5°	684.8	693.2	701.5	707.0	709.6	712.3	714.9	717.6
45°	659.4	668.6	677.6	683.6	686.6	689.5	692.4	695.3
47.5°	633.1	642.6	652.1	658.5	661.7	665.0	668.1	671.4
50°	615.0	625.0	635.0	641.6	644.8	648.0	651.3	654.4
52.5°	595.5	605.6	615.9	622.7	626.1	629.6	633.1	636.5
55°	566.1	576.6	587.2	594.3	598.1	602.0	605.8	609.6
57.5°	535.0	546.4	557.8	565.3	569.2	573.1	577.0	580.8
60°	514.4	525.6	536.7	544.4	548.5	552.6	556.7	560.8
62.5°	492.7	504.5	516.3	524.2	528.1	531.9	535.8	539.7
65°	459.5	471.5	483.5	491.5	495.2	499.0	502.9	506.7
67.5°	425.9	438.1	450.2	458.3	462.3	466.2	470.3	474.2
70°	402.6	415.2	427.8	435.8	439.4	442.9	446.4	450.0
72.5°	380.0	392.4	404.7	413.0	417.2	421.5	425.7	429.9
75°	345.9	358.4	371.1	379.3	383.1	386.9	390.7	394.5
77.5°	312.5	325.0	337.6	345.9	350.0	354.1	358.3	362.3
80°	289.8	302.2	314.5	322.7	326.8	330.9	335.0	339.1
82.5°	268.7	281.0	293.3	301.4	305.3	309.2	313.1	316.9
85°	238.4	250.7	263.0	271.2	275.3	279.5	283.5	287.7
87.5°	219.7	231.6	243.5	251.3	255.1	258.9	262.7	266.5
90°	231.8	243.1	254.3	261.8	265.5	269.3	273.0	276.8
92.5°	219.6	231.3	242.8	250.4	253.9	257.5	261.1	264.7
95°	238.1	249.2	260.3	267.4	270.5	273.5	276.6	279.7
97.5°	269.7	280.6	291.4	298.5	302.0	305.4	308.8	312.2
100°	291.7	302.6	313.4	320.3	323.3	326.3	329.3	332.3
102.5°	316.9	327.8	338.5	345.4	348.4	351.5	354.5	357.5
105°	354.9	365.7	376.3	383.3	386.5	389.8	393.0	396.2
107.5°	396.9	407.0	417.0	423.1	425.3	427.6	429.7	432.0
110°	426.1	435.5	444.9	450.9	453.4	456.0	458.6	461.1



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CATALOG NUMBER: SA2XXDIP-C1005D1080U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	455.3	464.2	472.9	478.8	481.5	484.2	487.0	489.7
115°	500.3	508.9	517.5	523.1	525.6	528.2	530.7	533.3
117.5°	543.5	551.6	559.8	565.0	567.3	569.6	572.0	574.3
120°	572.5	580.7	588.9	594.3	596.8	599.4	602.0	604.5
122.5°	603.0	610.4	617.9	622.8	625.0	627.3	629.6	631.8
125°	647.5	654.7	661.9	666.8	669.2	671.6	674.0	676.4
127.5°	690.3	696.9	703.4	707.5	709.4	711.3	713.1	715.0
130°	720.3	726.9	733.5	737.5	739.0	740.5	741.8	743.3
132.5°	749.2	755.1	760.9	764.7	766.3	767.8	769.5	771.1
135°	792.5	798.4	804.3	808.1	809.9	811.5	813.2	814.9
137.5°	833.8	839.0	844.2	847.4	848.5	849.6	850.7	851.8
140°	862.1	866.9	871.5	874.3	875.1	876.1	876.9	877.8
142.5°	888.9	892.9	896.7	899.1	899.7	900.3	901.0	901.6
145°	931.1	933.1	935.0	936.3	936.9	937.5	938.1	938.7
147.5°	969.0	969.7	970.4	970.7	970.6	970.4	970.3	970.2
150°	994.5	995.1	995.8	995.8	995.1	994.5	993.8	993.2
152.5°	1020.5	1021.2	1022.1	1022.1	1021.2	1020.5	1019.6	1018.7
155°	1053.3	1054.5	1055.6	1055.8	1055.2	1054.5	1053.8	1053.1
157.5°	1083.7	1085.3	1086.8	1087.0	1085.9	1084.9	1083.8	1082.7
160°	1101.8	1103.1	1104.5	1104.7	1103.8	1102.9	1102.0	1101.1
162.5°	1118.2	1119.6	1121.2	1121.4	1120.3	1119.3	1118.2	1117.1
165°	1139.3	1140.8	1142.4	1142.5	1141.5	1140.4	1139.3	1138.2
167.5°	1156.7	1158.2	1159.8	1159.9	1158.8	1157.6	1156.5	1155.4
170°	1166.2	1167.8	1169.3	1169.5	1168.1	1166.8	1165.4	1164.2
172.5°	1173.5	1175.0	1176.6	1176.6	1175.4	1174.0	1172.7	1171.3
175°	1181.3	1182.8	1184.4	1184.5	1183.2	1181.8	1180.5	1179.1
177.5°	1184.9	1185.9	1187.0	1187.0	1185.9	1184.9	1183.8	1182.8
180°	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2

(END OF REPORT)