

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: P332646-927

Luminaire Tested: **SA4XXDIP-C1020D810U927-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332646-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1020D810U927-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5898.2 lumens
Efficiency: N/A
Efficacy: 108.4 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: General Diffuse

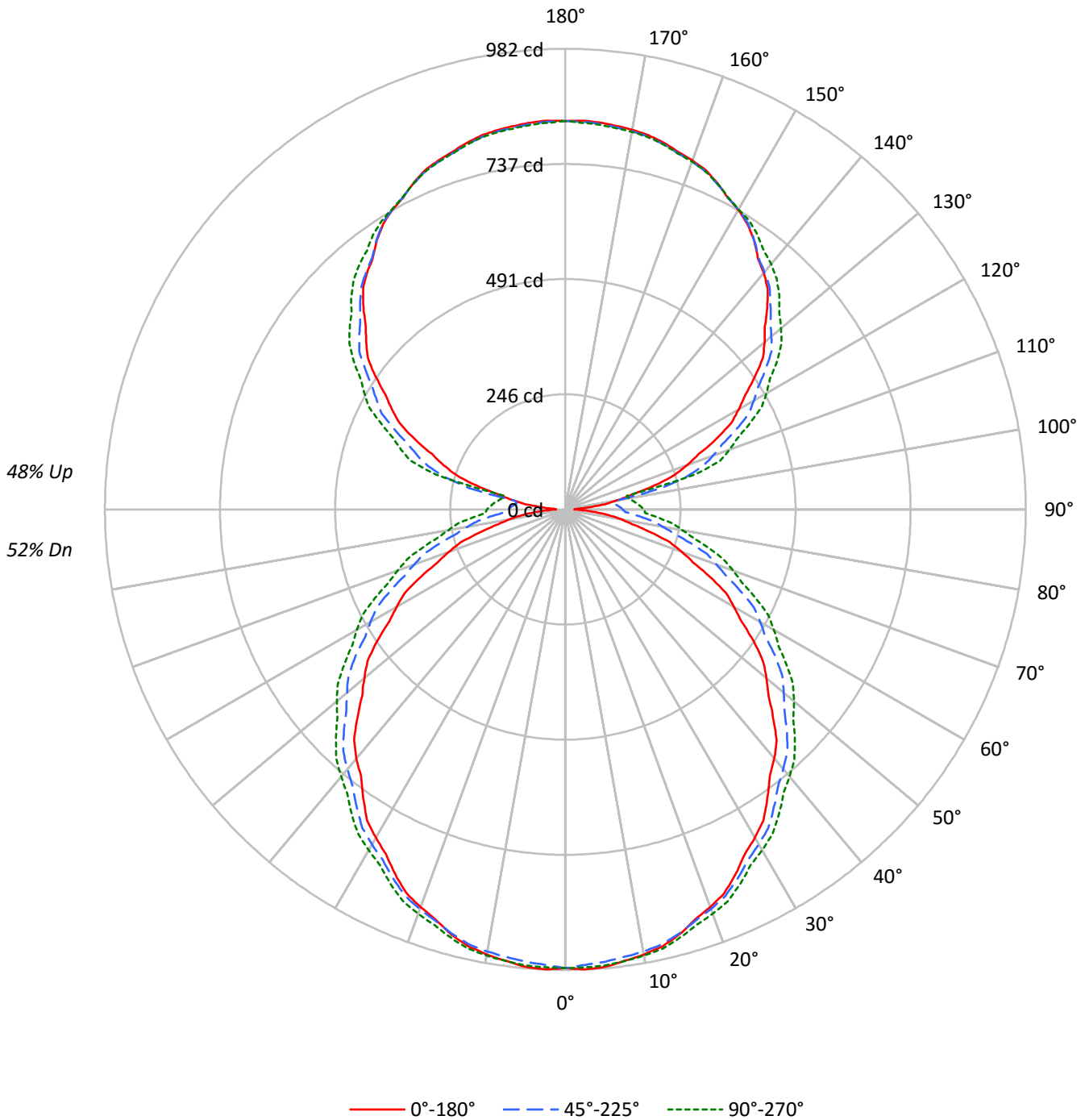
Input Watts (W): 54.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52				
1	97	92	88	84	90	86	82	78	73	70	67	61	59	57	50	48	47	42				
2	88	80	73	68	81	74	68	63	63	59	55	53	49	47	43	41	39	34				
3	80	70	62	56	74	65	58	52	55	50	46	46	42	39	38	35	33	28				
4	73	62	53	47	67	57	50	44	49	43	39	41	37	33	34	30	28	24				
5	67	55	46	40	62	51	43	38	44	38	33	37	32	28	30	27	24	21				
6	62	49	41	35	57	46	38	33	39	33	29	33	28	25	27	24	21	18				
7	57	44	36	30	52	41	34	29	35	29	25	30	25	22	25	21	18	16				
8	53	40	32	27	49	37	30	25	32	26	22	27	23	19	23	19	16	14				
9	49	37	29	24	45	34	27	22	29	24	20	25	21	17	21	17	15	13				
10	46	33	26	21	42	31	25	20	27	22	18	23	19	16	19	16	13	11				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7896	7896	7896
5°	7920	7717	7739
10°	7872	7591	7585
15°	7802	7444	7404
20°	7695	7284	7227
25°	7575	7102	7034
30°	7445	6922	6835
35°	7299	6739	6660
40°	7181	6564	6478
45°	7007	6402	6322
50°	6859	6215	6158
55°	6707	6040	5964
60°	6469	5816	5788
65°	6208	5578	5571
70°	5894	5303	5319
75°	5453	5001	5089
80°	4964	4711	4865
85°	4347	4456	4735



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.6	1.6
10°-20°	265.4	4.5
20°-30°	401.3	6.8
30°-40°	485.5	8.2
40°-50°	513.3	8.7
50°-60°	483.1	8.2
60°-70°	400.8	6.8
70°-80°	281.5	4.8
80°-90°	161.5	2.7
90°-100°	122.8	2.1
100°-110°	250.5	4.2
110°-120°	392.4	6.7
120°-130°	465.0	7.9
130°-140°	480.7	8.1
140°-150°	441.1	7.5
150°-160°	353.9	6.0
160°-170°	228.2	3.9
170°-180°	78.7	1.3
0°-30°	759.3	12.9
0°-40°	1244.8	21.1
0°-60°	2241.1	38.0
0°-90°	3084.9	52.3
90°-120°	765.8	13.0
90°-150°	2152.6	36.5
90°-180°	2813.0	47.7
0°-180°	5898.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	978	978	978	978	978	
5°	979	976	968	976	976	93
15°	939	940	936	946	945	264
25°	859	865	868	880	882	395
35°	751	764	776	790	794	470
45°	626	647	668	686	692	484
55°	491	514	546	568	575	437
65°	340	375	412	438	448	336
75°	188	229	275	304	315	200
85°	58	104	153	185	197	62
90°	19	70	122	156	168	13
95°	48	65	109	141	153	55
105°	196	223	266	296	285	206
115°	355	368	401	425	434	349
125°	494	496	521	543	551	441
135°	609	609	619	637	645	470
145°	701	702	702	709	715	438
155°	768	768	766	768	767	354
165°	810	807	806	811	806	229
175°	828	825	825	830	823	79
180°	828	828	828	828	828	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1
2.5°	981.6	981.0	980.4	979.9	979.2	978.2	976.6	975.1	973.5	971.9	973.3
5°	979.1	978.4	977.7	977.0	976.3	975.0	973.4	971.6	969.9	968.2	970.2
7.5°	970.8	970.4	969.9	969.6	969.1	968.2	966.8	965.4	963.9	962.5	964.7
10°	963.8	963.6	963.4	963.1	962.9	962.1	960.9	959.7	958.5	957.3	959.5
12.5°	954.2	954.2	954.1	954.0	954.0	953.5	952.8	951.9	951.1	950.2	952.3
15°	938.7	938.9	939.1	939.4	939.6	939.4	938.7	937.9	937.2	936.4	938.7
17.5°	917.4	918.1	918.9	919.6	920.4	920.6	920.4	920.4	920.2	920.0	922.3
20°	902.5	903.2	904.0	904.7	905.5	905.9	906.2	906.4	906.7	906.9	909.3
22.5°	885.8	886.8	887.7	888.7	889.5	890.3	890.7	891.1	891.5	892.0	894.5
25°	858.7	860.2	861.6	863.1	864.5	865.6	866.3	867.1	867.8	868.5	871.2
27.5°	828.5	830.6	832.7	834.9	837.0	838.7	839.8	840.9	842.0	843.1	845.7
30°	808.3	810.2	812.2	814.1	816.1	817.9	819.6	821.3	823.0	824.7	827.4
32.5°	786.4	788.8	791.1	793.4	795.7	797.9	799.8	801.7	803.6	805.5	808.5
35°	751.4	754.3	757.2	760.1	763.0	765.7	768.2	770.6	773.0	775.5	778.9
37.5°	716.1	719.5	722.8	726.2	729.5	732.7	735.7	738.7	741.8	744.8	748.2
40°	693.3	696.5	699.7	702.8	706.0	709.2	712.6	716.1	719.5	722.9	726.5
42.5°	667.0	670.6	674.1	677.7	681.2	685.0	689.0	693.0	697.0	701.0	705.0
45°	626.5	631.1	635.7	640.4	645.0	649.6	654.3	658.9	663.5	668.1	672.2
47.5°	587.7	592.5	597.2	602.1	606.8	611.9	617.2	622.6	628.0	633.3	637.5
50°	559.7	565.1	570.4	575.8	581.1	586.5	591.8	597.1	602.5	607.8	612.8
52.5°	531.6	537.0	542.3	547.7	553.1	558.8	564.9	571.1	577.2	583.4	588.2
55°	490.7	495.8	500.9	506.0	511.1	517.3	524.7	532.0	539.2	546.5	551.4
57.5°	444.9	451.2	457.6	463.9	470.2	477.0	484.3	491.5	498.8	506.0	511.8
60°	415.1	421.4	427.8	434.1	440.5	447.6	455.7	463.7	471.7	479.7	485.3
62.5°	386.2	393.1	400.1	406.9	413.8	421.3	429.4	437.4	445.4	453.4	459.1
65°	339.5	347.3	355.1	362.9	370.7	378.7	387.0	395.3	403.5	411.9	417.9
67.5°	294.6	302.9	311.2	319.5	327.7	336.3	345.2	354.0	362.9	371.8	378.0
70°	264.0	272.3	280.5	288.8	297.1	305.9	315.1	324.3	333.6	342.9	349.4
72.5°	234.2	242.6	251.1	259.6	268.1	277.2	287.0	296.8	306.7	316.6	322.9
75°	188.4	197.4	206.4	215.4	224.4	234.0	244.2	254.4	264.7	274.9	281.7
77.5°	145.7	155.2	164.8	174.3	183.9	193.9	204.7	215.4	226.1	236.8	243.7
80°	119.4	129.1	138.9	148.6	158.4	168.6	179.3	190.0	200.7	211.4	218.7
82.5°	93.1	103.2	113.4	123.5	133.6	144.0	154.7	165.4	176.2	186.9	194.3
85°	58.1	68.3	78.5	88.7	98.9	109.6	120.5	131.4	142.4	153.4	160.7
87.5°	32.8	43.0	53.2	63.5	73.8	84.3	95.1	106.1	116.9	127.8	135.1
90°	19.4	30.7	41.9	53.2	64.4	75.8	87.4	98.9	110.5	122.1	129.9
92.5°	24.5	33.3	42.1	51.0	59.8	70.0	81.6	93.2	104.7	116.3	124.0
95°	48.3	51.7	55.0	58.4	61.7	68.4	78.6	88.6	98.8	108.9	116.3
97.5°	85.2	95.1	105.0	114.8	124.6	126.7	121.3	115.8	110.4	104.9	111.3
100°	113.6	122.5	131.3	140.1	148.9	148.5	139.0	129.5	120.0	110.5	114.7
102.5°	146.3	153.7	161.1	168.4	175.8	182.9	189.7	196.5	203.4	210.2	191.3
105°	196.3	202.0	207.7	213.4	219.0	226.8	236.5	246.1	255.9	265.5	272.8
107.5°	244.5	248.9	253.3	257.7	262.1	269.0	278.5	288.0	297.5	306.9	313.5
110°	276.3	280.2	284.0	287.8	291.6	298.2	307.5	316.9	326.2	335.6	341.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	307.2	310.9	314.7	318.5	322.3	328.4	336.9	345.4	353.9	362.4	367.8
115°	354.7	357.3	359.9	362.5	365.1	370.2	377.9	385.6	393.2	400.8	406.5
117.5°	398.5	400.3	402.2	404.0	405.9	410.6	418.2	425.7	433.2	440.8	445.8
120°	427.3	428.6	429.8	431.1	432.4	436.5	443.5	450.4	457.2	464.2	469.4
122.5°	455.0	455.5	456.0	456.5	456.9	460.6	467.5	474.4	481.2	488.1	493.1
125°	493.7	494.0	494.3	494.6	495.0	498.0	503.8	509.6	515.4	521.3	526.2
127.5°	531.2	531.1	530.9	530.8	530.8	533.3	538.6	543.9	549.2	554.5	558.9
130°	554.5	554.4	554.4	554.2	554.1	556.2	560.5	564.8	569.2	573.5	578.0
132.5°	576.9	576.9	576.9	576.9	576.9	578.7	582.3	586.0	589.6	593.3	597.5
135°	609.2	609.0	609.0	608.8	608.6	609.7	612.0	614.3	616.5	618.7	622.9
137.5°	638.8	638.7	638.4	638.3	638.0	638.7	640.1	641.5	643.0	644.4	648.2
140°	658.1	658.1	658.2	658.2	658.2	658.5	659.1	659.6	660.1	660.6	664.2
142.5°	674.6	675.0	675.5	676.0	676.4	676.6	676.6	676.7	676.7	676.7	679.8
145°	701.0	701.2	701.3	701.6	701.7	701.8	701.8	701.8	701.8	701.8	703.4
147.5°	722.2	722.7	723.3	723.8	724.3	724.5	724.4	724.2	724.1	724.0	724.3
150°	737.6	737.8	738.2	738.5	738.8	738.9	738.7	738.6	738.5	738.3	738.3
152.5°	749.6	750.0	750.4	750.8	751.1	751.2	751.0	750.8	750.4	750.2	750.4
155°	767.5	767.5	767.7	767.9	768.0	767.9	767.5	767.0	766.6	766.2	766.8
157.5°	782.7	782.6	782.5	782.4	782.4	782.0	781.6	781.2	780.7	780.2	780.9
160°	791.6	791.2	790.8	790.4	790.0	789.6	789.6	789.4	789.3	789.1	790.0
162.5°	799.5	799.0	798.4	798.0	797.4	797.1	796.9	796.9	796.7	796.5	797.4
165°	809.5	808.9	808.2	807.5	806.8	806.4	806.4	806.4	806.4	806.4	807.6
167.5°	817.5	816.7	816.0	815.3	814.6	814.2	814.1	814.0	814.0	813.9	815.1
170°	822.0	821.1	820.3	819.4	818.6	818.3	818.4	818.6	818.7	818.9	819.9
172.5°	824.9	824.1	823.2	822.4	821.7	821.3	821.4	821.6	821.7	821.8	822.9
175°	828.1	827.3	826.5	825.7	824.8	824.5	824.7	824.7	824.9	825.1	826.2
177.5°	829.7	828.9	828.1	827.3	826.6	826.2	826.5	826.7	827.0	827.1	828.0
180°	828.1	828.1	828.1	828.1	828.1	828.1	828.1	828.1	828.1	828.1	828.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1
2.5°	974.7	976.0	977.4	977.9	977.8	977.6	977.4	977.2
5°	972.1	974.1	976.0	976.8	976.6	976.4	976.1	975.9
7.5°	966.9	969.1	971.3	972.2	972.0	971.8	971.5	971.3
10°	961.6	963.8	966.1	967.0	966.8	966.5	966.3	966.1
12.5°	954.3	956.2	958.2	959.3	959.2	959.1	959.1	959.0
15°	940.9	943.0	945.2	946.2	945.9	945.7	945.5	945.2
17.5°	924.5	926.8	929.0	930.0	929.8	929.6	929.4	929.2
20°	911.7	914.2	916.6	917.8	917.8	917.8	917.8	917.8
22.5°	896.8	899.3	901.7	903.2	903.6	903.9	904.3	904.7
25°	873.9	876.5	879.2	880.7	881.0	881.2	881.5	881.7
27.5°	848.1	850.6	853.1	854.4	854.8	855.1	855.3	855.6
30°	830.1	832.7	835.4	837.0	837.5	838.0	838.5	839.0
32.5°	811.6	814.7	817.8	819.5	820.0	820.5	820.9	821.5
35°	782.3	785.7	789.1	791.2	791.9	792.6	793.4	794.1
37.5°	751.7	755.2	758.6	760.7	761.5	762.3	763.0	763.8
40°	730.2	733.8	737.5	739.8	740.8	741.7	742.8	743.7
42.5°	709.1	713.1	717.2	719.5	720.3	721.1	721.9	722.6
45°	676.4	680.6	684.7	687.4	688.6	689.8	691.0	692.2
47.5°	641.8	646.1	650.5	653.3	654.7	656.2	657.7	659.2
50°	617.6	622.5	627.3	630.5	632.0	633.4	634.9	636.4
52.5°	593.1	597.9	602.9	605.9	607.4	608.9	610.4	611.8
55°	556.3	561.2	566.0	569.2	570.6	572.1	573.5	575.0
57.5°	517.6	523.4	529.2	532.7	534.1	535.5	536.9	538.2
60°	490.9	496.5	502.1	505.9	507.9	509.8	511.7	513.7
62.5°	464.6	470.2	475.9	479.6	481.6	483.5	485.4	487.4
65°	424.0	430.1	436.2	440.2	442.1	444.1	446.0	448.0
67.5°	384.1	390.3	396.5	400.5	402.4	404.3	406.2	408.1
70°	355.9	362.5	369.1	373.3	374.9	376.7	378.3	380.1
72.5°	329.3	335.6	342.1	346.2	348.1	350.0	351.9	353.8
75°	288.5	295.3	302.1	306.7	308.9	311.1	313.2	315.4
77.5°	250.6	257.5	264.4	269.1	271.4	273.8	276.1	278.5
80°	226.0	233.3	240.6	245.2	247.2	249.1	251.0	253.0
82.5°	201.8	209.4	216.8	221.7	223.8	225.9	228.1	230.2
85°	167.9	175.2	182.5	187.4	189.9	192.3	194.7	197.2
87.5°	142.3	149.5	156.7	161.4	163.6	165.8	168.0	170.2
90°	137.8	145.7	153.6	158.7	160.9	163.1	165.3	167.5
92.5°	131.7	139.3	147.0	151.9	153.9	155.9	157.9	159.9
95°	123.7	131.1	138.5	143.4	145.7	148.1	150.4	152.7
97.5°	117.8	124.2	130.7	135.1	137.3	139.5	141.7	143.9
100°	119.0	123.2	127.4	130.5	132.3	134.1	136.0	137.8
102.5°	172.5	153.6	134.7	126.2	128.2	130.1	132.0	134.0
105°	280.2	287.5	294.9	297.0	294.0	291.0	288.0	284.9
107.5°	320.0	326.7	333.3	337.7	339.9	342.2	344.5	346.8
110°	347.4	353.2	359.1	363.2	365.6	367.9	370.3	372.6



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CATALOG NUMBER: SA4XXDIP-C1020D810U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	373.1	378.5	383.8	387.7	390.2	392.7	395.1	397.6
115°	412.1	417.7	423.3	427.0	428.7	430.4	432.1	433.8
117.5°	450.8	455.8	460.9	464.3	466.2	468.1	470.0	471.9
120°	474.5	479.6	484.7	488.1	489.9	491.5	493.2	494.9
122.5°	498.1	503.2	508.2	511.4	512.9	514.4	515.9	517.4
125°	531.3	536.3	541.4	544.7	546.3	547.9	549.5	551.1
127.5°	563.2	567.4	571.7	574.6	576.2	577.7	579.3	580.8
130°	582.5	587.0	591.5	594.5	596.0	597.5	598.9	600.4
132.5°	601.9	606.2	610.5	613.4	614.7	616.1	617.4	618.8
135°	627.1	631.2	635.4	638.3	640.1	641.8	643.6	645.3
137.5°	652.1	656.0	659.8	662.3	663.5	664.6	665.7	666.9
140°	667.7	671.4	674.9	677.4	678.7	680.1	681.4	682.8
142.5°	682.9	686.0	689.0	691.1	692.1	693.2	694.2	695.3
145°	705.0	706.5	708.2	709.6	710.8	712.1	713.4	714.6
147.5°	724.5	724.8	725.2	725.8	726.7	727.6	728.6	729.4
150°	738.3	738.3	738.3	738.4	738.6	738.6	738.8	738.9
152.5°	750.7	750.9	751.1	751.1	751.1	751.0	750.9	750.8
155°	767.3	767.9	768.4	768.5	768.0	767.6	767.2	766.8
157.5°	781.6	782.4	783.1	783.1	782.4	781.6	780.9	780.2
160°	790.8	791.6	792.4	792.4	791.6	790.8	790.0	789.1
162.5°	798.2	799.0	799.9	799.8	798.8	797.9	797.0	796.1
165°	808.7	809.8	810.9	810.8	809.5	808.3	807.1	805.8
167.5°	816.3	817.5	818.7	818.6	817.3	815.9	814.5	813.2
170°	821.0	822.1	823.2	823.1	821.7	820.4	819.0	817.6
172.5°	824.0	825.1	826.2	826.0	824.6	823.1	821.6	820.1
175°	827.5	828.8	830.0	829.8	828.1	826.5	824.8	823.2
177.5°	828.9	829.8	830.7	830.4	829.1	827.8	826.5	825.1
180°	828.1	828.1	828.1	828.1	828.1	828.1	828.1	828.1

(END OF REPORT)