

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: P331389-930

Luminaire Tested: **SA2XXDIP-C865D530U930-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331389-930
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: SA2XXDIP-C865D530U930-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

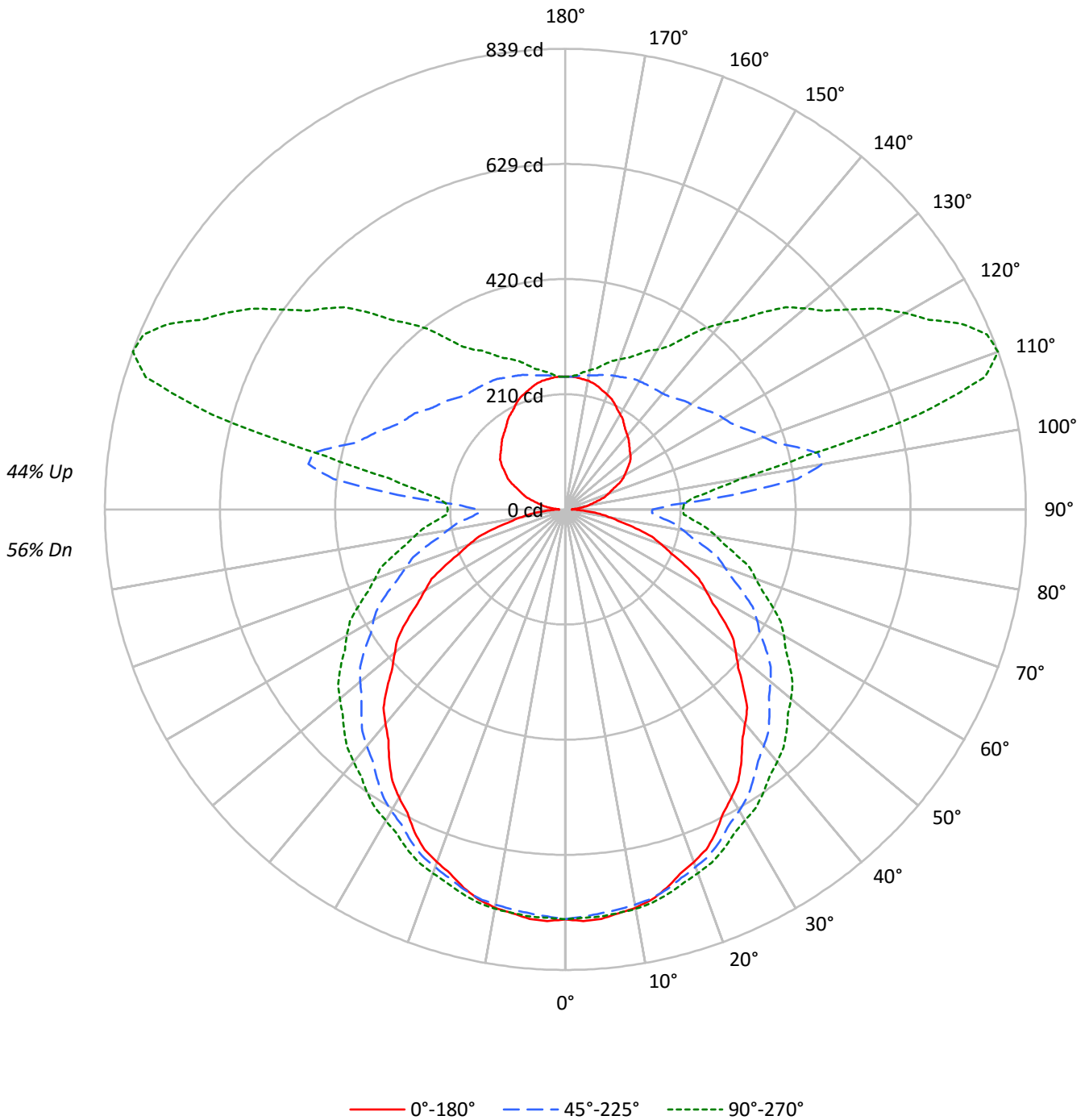
Lumens per Lamp: N/A
Luminaire Lumens: 4532.5 lumens
Efficiency: N/A
Efficacy: 92.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 48.8
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



TEST NUMBER: P331389-930
CATALOG NUMBER: SA2XXDIP-C865D530U930-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





TEST NUMBER: P331389-930

CATALOG NUMBER: SA2XXDIP-C865D530U930-4F0-1E-UDD-D4

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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	97	92	88	84	90	86	82	78	73	70	68	62	60	58	52	50	49	44
2	88	80	73	67	81	74	68	63	63	59	55	54	50	47	45	42	40	35
3	80	69	61	55	74	65	57	52	55	50	45	47	43	39	39	36	33	29
4	73	61	53	46	67	57	49	43	49	43	38	41	37	33	34	31	28	24
5	67	54	46	39	62	51	43	37	44	37	33	37	32	28	31	27	24	21
6	61	49	40	34	57	45	38	32	39	33	28	33	28	25	28	24	21	18
7	57	44	35	29	52	41	33	28	35	29	25	30	25	22	25	22	19	16
8	53	40	32	26	49	37	30	25	32	26	22	28	23	19	23	19	17	14
9	49	36	28	23	45	34	27	22	29	24	20	25	21	17	21	18	15	13
10	46	33	26	21	42	31	24	20	27	21	18	23	19	15	20	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12053	12053	12053
5°	12111	11602	11558
10°	12036	11258	11133
15°	11869	10896	10685
20°	11659	10507	10254
25°	11452	10132	9863
30°	11160	9747	9469
35°	10866	9375	9193
40°	10556	9059	8916
45°	10260	8774	8678
50°	9944	8519	8446
55°	9611	8242	8208
60°	9207	7957	7957
65°	8784	7620	7658
70°	8310	7260	7336
75°	7704	6907	7041
80°	6744	6545	6739
85°	5835	6234	6508



TEST NUMBER: P331389-930

CATALOG NUMBER: SA2XXDIP-C865D530U930-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.7	1.6
10°-20°	202.8	4.5
20°-30°	307.4	6.8
30°-40°	374.4	8.3
40°-50°	402.8	8.9
50°-60°	391.1	8.6
60°-70°	341.5	7.5
70°-80°	262.9	5.8
80°-90°	178.6	3.9
90°-100°	218.2	4.8
100°-110°	416.8	9.2
110°-120°	407.1	9.0
120°-130°	319.6	7.1
130°-140°	244.1	5.4
140°-150°	176.5	3.9
150°-160°	122.4	2.7
160°-170°	72.0	1.6
170°-180°	23.4	0.5
0°-30°	580.9	12.8
0°-40°	955.3	21.1
0°-60°	1749.2	38.6
0°-90°	2532.3	55.9
90°-120°	1042.2	23.0
90°-150°	1782.4	39.3
90°-180°	2000.0	44.1
0°-180°	4532.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	746	746	746	746	746	
5°	749	745	739	745	744	71
15°	714	716	716	725	725	201
25°	649	657	666	679	683	298
35°	559	578	598	621	630	349
45°	459	488	526	558	570	354
55°	352	392	447	484	500	314
65°	240	294	357	400	415	239
75°	133	194	263	308	324	141
85°	39	106	175	219	236	42
90°	11	80	159	200	214	8
95°	25	100	307	233	232	24
105°	62	124	438	745	667	66
115°	104	145	353	691	799	103
125°	142	169	314	547	635	126
135°	165	197	286	439	507	128
145°	187	215	272	345	382	118
155°	212	229	265	299	311	98
165°	232	238	253	269	273	65
175°	241	242	244	247	246	23
180°	242	242	242	242	242	



TEST NUMBER: P331389-930

CATALOG NUMBER: SA2XXDIP-C865D530U930-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5
2.5°	750.8	750.2	749.7	749.1	748.5	747.5	746.2	744.9	743.5	742.2	743.1
5°	748.6	748.0	747.2	746.5	745.8	744.7	743.2	741.8	740.4	738.9	740.4
7.5°	741.9	741.4	740.9	740.5	740.0	739.2	738.1	737.0	735.9	734.8	736.5
10°	736.8	736.3	735.8	735.3	734.8	734.3	733.5	732.8	732.1	731.3	733.3
12.5°	728.1	728.2	728.3	728.4	728.5	728.2	727.7	727.2	726.7	726.1	728.1
15°	714.0	714.5	715.0	715.5	715.9	716.2	716.2	716.2	716.2	716.2	718.4
17.5°	695.9	696.8	697.9	698.9	699.9	700.7	701.6	702.3	703.1	703.8	706.1
20°	683.7	684.9	686.2	687.4	688.5	689.7	690.6	691.5	692.5	693.5	696.1
22.5°	670.7	672.1	673.5	674.9	676.3	677.7	679.1	680.4	681.8	683.1	685.7
25°	649.1	650.8	652.5	654.2	655.8	657.8	659.9	662.1	664.2	666.4	669.3
27.5°	623.1	625.9	628.6	631.4	634.1	636.7	639.3	641.9	644.4	646.9	650.6
30°	605.8	608.9	612.1	615.2	618.3	621.5	624.6	627.7	630.9	634.0	637.8
32.5°	586.8	590.3	593.8	597.4	600.9	604.5	608.1	611.9	615.6	619.2	623.7
35°	559.3	563.4	567.5	571.6	575.7	580.0	584.6	589.1	593.7	598.3	603.6
37.5°	529.5	534.2	538.9	543.6	548.3	553.6	559.5	565.5	571.4	577.3	583.2
40°	509.6	514.9	520.2	525.5	530.7	536.6	543.1	549.6	556.1	562.6	568.8
42.5°	490.5	495.8	501.1	506.4	511.7	518.0	525.5	533.0	540.4	547.9	554.6
45°	458.7	465.2	471.7	478.2	484.7	492.1	500.5	509.0	517.4	525.8	533.2
47.5°	427.3	434.4	441.5	448.6	455.6	464.1	473.9	483.8	493.7	503.5	511.3
50°	405.7	413.1	420.6	428.0	435.5	444.7	455.4	466.3	477.1	488.0	496.1
52.5°	384.9	392.7	400.6	408.5	416.3	425.9	437.3	448.7	460.1	471.5	479.8
55°	351.6	360.3	368.9	377.6	386.2	396.8	409.3	421.8	434.3	446.8	455.4
57.5°	318.7	328.5	338.3	348.0	357.8	369.0	381.7	394.5	407.2	420.0	429.3
60°	295.4	305.7	316.0	326.4	336.7	348.7	362.4	376.1	389.8	403.6	412.7
62.5°	274.6	285.3	296.0	306.7	317.5	329.7	343.4	357.1	370.8	384.5	394.2
65°	240.2	251.9	263.7	275.5	287.3	300.3	314.5	328.6	342.8	357.0	366.9
67.5°	208.6	220.9	233.2	245.5	257.8	271.3	285.8	300.3	314.8	329.3	339.2
70°	186.1	198.6	211.1	223.6	236.1	249.8	264.7	279.6	294.5	309.4	319.8
72.5°	165.3	178.2	191.1	204.0	216.9	230.8	246.0	261.1	276.1	291.2	301.4
75°	133.1	146.5	160.0	173.5	186.9	201.4	216.7	232.1	247.5	262.9	273.2
77.5°	101.9	116.0	130.1	144.1	158.2	173.1	188.7	204.4	220.0	235.6	245.9
80°	81.1	95.8	110.5	125.1	139.8	154.9	170.6	186.2	201.8	217.4	227.6
82.5°	63.8	78.3	92.8	107.2	121.7	136.9	152.7	168.5	184.3	200.2	210.3
85°	39.0	53.9	68.7	83.6	98.6	113.7	129.1	144.5	159.9	175.3	185.4
87.5°	21.3	35.9	50.6	65.1	79.7	94.7	110.6	126.7	142.6	158.1	167.8
90°	11.3	26.7	42.4	57.3	72.2	88.2	105.9	124.6	142.8	158.6	167.8
92.5°	15.7	31.1	47.5	62.5	78.6	96.9	122.2	151.8	179.8	195.4	195.5
95°	24.9	38.1	54.1	69.5	88.3	112.3	148.1	203.0	271.3	306.7	293.0
97.5°	34.1	46.6	61.6	78.0	96.6	121.2	161.9	232.1	335.6	426.2	450.4
100°	43.4	53.6	66.8	83.1	101.3	125.5	163.5	233.7	347.6	475.5	551.4
102.5°	51.0	60.3	72.6	88.1	105.9	129.5	165.3	228.9	334.9	471.3	585.3
105°	62.1	70.9	81.2	95.1	112.3	135.1	169.4	223.3	312.6	437.6	569.6
107.5°	75.3	82.3	91.2	103.1	118.8	140.7	173.9	221.9	297.3	402.3	519.7
110°	83.4	90.0	97.7	108.5	123.0	144.9	177.1	222.3	290.8	384.4	488.4



TEST NUMBER: P331389-930

CATALOG NUMBER: SA2XXDIP-C865D530U930-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	91.6	97.4	104.7	114.4	127.8	149.3	180.2	223.0	285.8	370.2	464.5
115°	104.3	109.3	114.7	122.9	134.9	154.2	185.0	224.1	280.1	353.2	433.8
117.5°	116.4	120.0	124.5	131.2	141.9	160.7	189.2	225.8	275.3	340.0	410.9
120°	124.6	127.4	131.2	136.3	146.6	164.9	192.7	227.4	272.8	332.2	397.9
122.5°	132.4	134.3	137.5	142.4	152.1	170.2	196.2	228.5	270.8	325.5	386.2
125°	141.6	143.1	145.9	151.4	160.7	177.6	202.0	230.6	267.2	313.9	368.3
127.5°	149.9	151.5	155.2	161.0	169.7	186.1	208.6	233.5	264.8	304.5	351.6
130°	154.7	156.3	160.7	167.0	176.0	191.4	212.8	235.5	263.7	298.6	340.6
132.5°	159.1	161.1	165.9	172.5	182.0	196.8	216.2	237.4	262.7	293.0	330.8
135°	164.8	166.6	172.2	179.1	189.9	204.1	221.4	240.0	261.1	285.8	317.3
137.5°	171.0	173.3	178.8	186.2	196.7	209.3	225.1	241.3	259.3	279.4	306.1
140°	175.9	177.5	182.9	190.0	200.1	212.2	226.7	241.6	257.9	275.6	299.4
142.5°	180.8	182.0	186.9	194.1	203.7	215.1	228.7	242.9	257.6	273.9	294.3
145°	186.9	188.7	193.4	200.4	209.7	219.9	232.4	245.5	258.5	272.5	288.8
147.5°	194.7	196.1	200.6	207.0	214.7	223.8	235.6	247.1	258.9	270.8	284.0
150°	199.9	201.3	205.0	211.1	218.1	226.4	237.1	247.9	258.5	269.7	280.9
152.5°	205.1	205.8	209.5	214.8	221.4	229.0	238.6	248.2	257.8	267.8	278.3
155°	212.5	213.0	215.7	220.9	226.0	232.9	240.8	248.7	256.7	264.6	273.4
157.5°	218.6	219.1	221.4	225.8	229.9	235.7	242.4	248.7	254.5	261.2	268.8
160°	222.7	223.1	225.0	228.8	232.4	237.6	243.2	248.7	253.4	259.0	265.5
162.5°	226.8	226.5	228.4	231.4	234.7	238.7	243.5	248.3	252.3	257.1	262.5
165°	231.5	231.1	232.0	234.8	237.1	239.9	244.1	247.4	250.1	253.4	257.6
167.5°	235.5	234.9	235.7	237.5	239.2	240.9	244.0	246.7	248.0	250.1	252.7
170°	238.1	237.1	237.6	239.0	239.9	241.3	243.6	246.0	246.9	248.3	250.1
172.5°	239.5	239.0	238.7	240.1	240.7	241.7	243.3	244.8	245.4	246.1	247.5
175°	241.3	240.8	240.4	241.3	241.3	241.7	242.7	243.6	243.2	243.6	244.1
177.5°	242.1	241.4	241.0	241.7	241.7	241.7	242.1	242.9	242.1	241.7	242.1
180°	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7



TEST NUMBER: P331389-930

CATALOG NUMBER: SA2XXDIP-C865D530U930-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5
2.5°	744.0	745.0	746.0	746.3	745.9	745.5	745.1	744.8
5°	741.8	743.2	744.7	745.3	745.0	744.8	744.5	744.3
7.5°	738.3	740.0	741.8	742.5	742.2	742.0	741.8	741.5
10°	735.2	737.1	739.1	739.9	739.6	739.4	739.2	738.9
12.5°	730.0	731.9	733.9	734.7	734.4	734.2	733.9	733.7
15°	720.5	722.7	724.9	725.8	725.5	725.3	725.0	724.9
17.5°	708.4	710.6	712.9	714.0	714.0	714.0	714.0	714.0
20°	698.8	701.4	704.0	705.4	705.4	705.4	705.4	705.4
22.5°	688.4	691.0	693.7	695.2	695.5	695.9	696.3	696.8
25°	672.2	675.1	678.0	679.8	680.4	681.2	681.9	682.7
27.5°	654.3	657.9	661.5	663.7	664.2	664.7	665.3	665.8
30°	641.6	645.5	649.4	651.7	652.3	653.1	653.8	654.5
32.5°	628.1	632.5	636.9	639.8	641.1	642.4	643.7	645.0
35°	608.9	614.2	619.5	622.9	624.6	626.3	627.9	629.7
37.5°	589.0	594.8	600.7	604.5	606.3	608.1	609.9	611.7
40°	575.0	581.3	587.6	591.7	593.9	596.1	598.3	600.5
42.5°	561.5	568.3	575.2	579.7	581.8	584.0	586.1	588.3
45°	540.7	548.1	555.6	560.5	563.0	565.3	567.8	570.1
47.5°	519.1	526.8	534.7	539.9	542.5	545.2	547.8	550.5
50°	504.3	512.4	520.7	526.0	528.6	531.3	533.9	536.6
52.5°	488.2	496.6	504.9	510.5	513.4	516.2	519.0	521.9
55°	464.1	472.8	481.4	487.3	490.4	493.6	496.7	499.8
57.5°	438.6	447.9	457.3	463.6	466.7	469.9	473.0	476.2
60°	421.8	431.0	440.1	446.3	449.7	453.1	456.4	459.8
62.5°	403.9	413.6	423.3	429.8	432.9	436.1	439.3	442.5
65°	376.7	386.6	396.5	402.9	406.0	409.2	412.3	415.4
67.5°	349.2	359.1	369.2	375.8	379.0	382.3	385.6	388.8
70°	330.1	340.4	350.7	357.3	360.3	363.1	366.1	368.9
72.5°	311.5	321.6	331.8	338.6	342.1	345.5	349.0	352.5
75°	283.6	293.9	304.3	311.0	314.1	317.2	320.3	323.5
77.5°	256.2	266.5	276.8	283.6	287.0	290.3	293.8	297.1
80°	237.7	247.8	257.9	264.6	267.9	271.3	274.7	278.0
82.5°	220.4	230.4	240.5	247.2	250.4	253.5	256.7	259.8
85°	195.4	205.5	215.6	222.4	225.8	229.1	232.4	235.9
87.5°	177.5	187.1	197.1	203.7	206.8	209.9	212.9	216.0
90°	176.9	185.6	196.2	202.8	205.8	208.6	211.5	214.4
92.5°	194.4	198.0	203.6	206.8	209.4	210.8	214.0	216.1
95°	264.5	245.2	234.9	230.6	227.5	226.7	228.2	231.5
97.5°	417.2	374.4	333.0	305.2	285.8	277.3	273.3	272.2
100°	550.5	501.7	446.9	396.4	360.4	343.2	332.3	326.6
102.5°	635.9	631.6	593.7	539.8	500.5	469.0	454.8	446.1
105°	674.8	735.7	750.2	740.4	714.2	688.0	670.7	666.8
107.5°	630.3	717.5	774.0	801.8	808.0	809.1	807.8	801.8
110°	594.2	685.1	752.3	795.7	818.2	829.7	836.6	838.7



TEST NUMBER: P331389-930

CATALOG NUMBER: SA2XXDIP-C865D530U930-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	560.6	648.2	719.5	768.3	798.8	816.2	826.8	831.9
115°	517.8	596.6	664.7	717.5	753.2	777.2	792.0	798.8
117.5°	483.2	553.3	615.6	665.3	701.4	726.4	741.6	747.6
120°	464.6	529.0	585.1	632.0	667.2	691.7	707.8	715.2
122.5°	449.0	508.3	561.6	604.2	635.7	659.4	673.7	679.8
125°	425.4	479.8	527.3	566.5	595.6	615.4	629.2	635.0
127.5°	402.2	451.5	496.0	532.2	557.9	576.6	588.7	593.8
130°	387.3	433.1	475.6	510.1	534.8	552.5	563.8	569.4
132.5°	372.8	415.4	454.7	487.3	511.6	529.4	539.9	545.1
135°	352.6	388.3	424.0	453.6	475.5	492.8	503.0	506.9
137.5°	335.1	365.2	394.0	419.7	439.5	454.4	463.4	467.8
140°	324.2	350.3	375.5	398.7	415.0	428.5	436.9	441.2
142.5°	315.7	337.7	359.2	378.5	393.9	406.1	413.6	415.4
145°	304.7	321.4	337.3	352.1	364.4	373.6	379.4	382.0
147.5°	296.4	308.8	320.2	330.4	340.2	347.2	350.8	352.3
150°	292.0	302.2	312.0	320.3	327.3	332.9	335.7	336.1
152.5°	287.9	297.4	305.7	312.9	318.4	323.3	325.3	325.4
155°	282.3	289.7	296.6	301.7	306.9	310.1	312.0	311.0
157.5°	275.7	281.8	287.7	291.7	295.3	298.1	298.9	298.9
160°	271.5	276.6	281.8	285.0	288.3	290.6	291.1	291.1
162.5°	267.4	271.8	276.2	278.7	281.9	283.6	284.0	283.6
165°	261.3	264.6	267.8	269.7	271.5	273.4	273.4	273.0
167.5°	255.4	258.0	260.2	261.9	262.7	263.7	263.7	263.1
170°	252.5	253.9	255.8	256.7	257.1	258.5	258.0	257.1
172.5°	249.2	250.1	251.6	252.2	252.7	253.3	252.8	252.3
175°	245.5	246.0	246.5	246.9	246.9	247.4	246.9	246.0
177.5°	242.9	242.9	243.3	243.3	243.3	243.3	242.9	242.1
180°	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7

(END OF REPORT)