

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: P331570-930

Luminaire Tested: **S122DIW-S865D970U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331570-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S865D970U930-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5588.0 lumens
Efficiency: N/A
Efficacy: 91.3 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

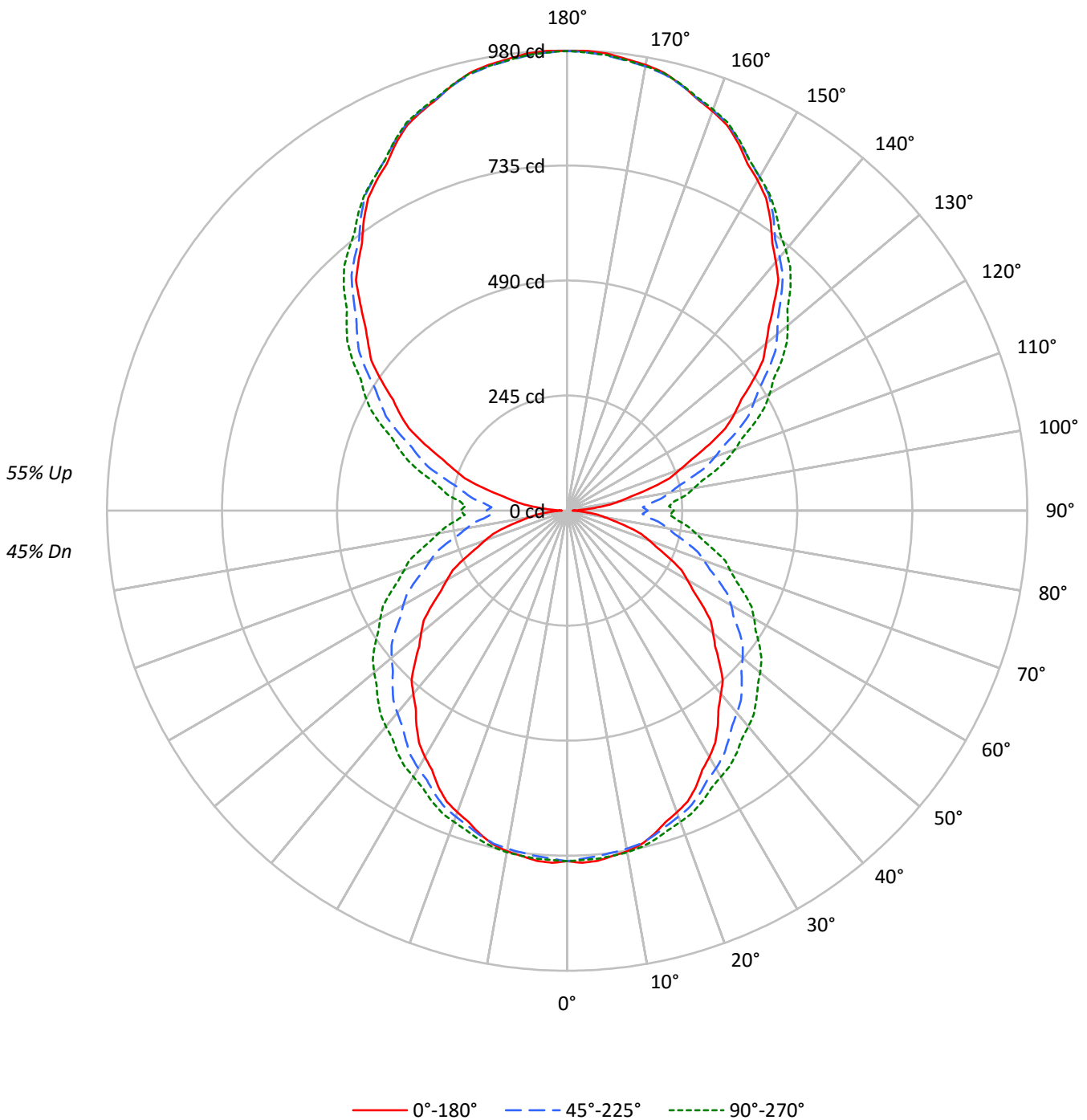
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331570-930

CATALOG NUMBER: S122DIW-S865D970U930-4F0-1E-UDD-D1

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	45
1	95	90	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	35	34	29
3	78	68	60	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	25	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	11
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°	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: P331570-930

CATALOG NUMBER: S122DIW-S865D970U930-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.7	1.3
10°-20°	202.8	3.6
20°-30°	307.4	5.5
30°-40°	374.4	6.7
40°-50°	402.8	7.2
50°-60°	391.1	7.0
60°-70°	341.5	6.1
70°-80°	262.9	4.7
80°-90°	180.4	3.2
90°-100°	183.6	3.3
100°-110°	281.3	5.0
110°-120°	387.8	6.9
120°-130°	465.6	8.3
130°-140°	499.6	8.9
140°-150°	478.8	8.6
150°-160°	399.6	7.2
160°-170°	265.0	4.7
170°-180°	92.6	1.7
0°-30°	580.9	10.4
0°-40°	955.3	17.1
0°-60°	1749.2	31.3
0°-90°	2534.0	45.3
90°-120°	852.7	15.3
90°-150°	2296.7	41.1
90°-180°	3054.0	54.7
0°-180°	5588.0	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°	12	85	172	212	227	10
95°	52	111	177	217	230	56
105°	183	218	275	313	326	194
115°	335	353	398	429	440	331
125°	483	492	522	548	558	432
135°	623	632	644	665	672	481
145°	755	760	766	773	775	472
155°	863	865	868	872	870	397
165°	939	938	938	943	940	265
175°	977	974	973	978	974	93
180°	978	978	978	978	978	



TEST NUMBER: P331570-930

CATALOG NUMBER: S122DIW-S865D970U930-4F0-1E-UDD-D1

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°	21.4	36.1	50.9	65.7	80.5	96.0	112.1	128.3	144.5	160.7	170.4
90°	11.7	27.8	43.9	60.1	76.2	94.0	113.4	132.9	152.3	171.7	181.0
92.5°	24.6	39.2	53.8	68.4	83.1	98.2	114.0	129.7	145.5	161.3	170.8
95°	51.6	64.7	77.9	91.0	104.1	118.1	132.9	147.7	162.5	177.2	186.4
97.5°	86.0	97.7	109.3	121.0	132.6	145.8	160.3	174.9	189.4	204.0	212.9
100°	112.4	122.8	133.1	143.6	153.9	166.1	180.1	194.1	208.1	222.2	231.1
102.5°	139.3	148.6	157.9	167.2	176.5	188.1	201.9	215.6	229.4	243.2	252.0
105°	183.0	190.5	198.0	205.5	213.0	223.2	236.1	249.0	261.9	274.7	283.5
107.5°	228.0	234.4	240.8	247.1	253.6	262.7	274.7	286.7	298.6	310.6	318.8
110°	256.2	262.1	268.0	273.9	279.8	288.7	300.4	312.3	324.0	335.8	343.5



TEST NUMBER: P331570-930

CATALOG NUMBER: S122DIW-S865D970U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	287.9	293.0	298.2	303.3	308.4	316.6	327.6	338.7	349.8	360.8	368.0
115°	334.6	338.3	342.1	345.8	349.6	356.7	367.2	377.6	388.1	398.5	405.5
117.5°	380.1	383.4	386.5	389.7	392.9	399.0	408.0	416.9	425.9	434.9	441.6
120°	411.2	413.6	416.0	418.5	420.9	426.2	434.3	442.5	450.6	458.8	465.5
122.5°	439.6	441.7	443.8	446.1	448.2	453.2	461.3	469.3	477.3	485.3	491.4
125°	482.7	484.5	486.1	487.7	489.3	493.7	500.9	508.1	515.2	522.4	528.3
127.5°	525.9	527.7	529.5	531.4	533.3	537.0	542.5	548.0	553.6	559.1	564.4
130°	552.9	555.1	557.3	559.4	561.6	564.9	569.6	574.3	579.0	583.7	589.1
132.5°	583.3	585.1	586.8	588.5	590.2	593.0	597.0	601.0	604.9	608.9	613.7
135°	622.9	624.9	627.0	628.9	631.0	633.3	636.1	638.9	641.6	644.4	649.3
137.5°	665.7	667.2	668.9	670.5	672.1	673.7	675.1	676.7	678.2	679.8	684.0
140°	691.5	692.8	694.2	695.7	697.1	698.5	699.9	701.3	702.7	704.1	707.9
142.5°	717.9	719.3	720.6	722.1	723.5	724.6	725.3	726.0	726.8	727.4	730.7
145°	754.7	756.0	757.3	758.6	759.9	761.1	762.2	763.3	764.4	765.5	767.1
147.5°	788.6	790.2	791.7	793.2	794.8	795.9	796.6	797.4	798.1	798.8	799.5
150°	811.7	812.9	813.9	815.1	816.1	817.1	817.8	818.6	819.3	820.0	820.5
152.5°	832.3	833.3	834.5	835.5	836.7	837.6	838.5	839.4	840.2	841.1	841.8
155°	862.9	863.5	864.1	864.6	865.1	865.7	866.3	866.8	867.3	867.9	868.8
157.5°	889.2	889.6	889.9	890.3	890.6	891.0	891.4	891.7	892.0	892.3	893.6
160°	905.1	905.4	905.8	906.1	906.5	906.8	907.0	907.2	907.3	907.5	908.7
162.5°	919.6	919.7	919.7	919.8	919.9	920.0	920.2	920.4	920.6	920.7	922.0
165°	938.9	938.7	938.6	938.3	938.2	938.1	938.1	938.1	938.1	938.1	939.4
167.5°	955.1	954.6	954.0	953.4	952.9	952.6	952.6	952.5	952.5	952.4	953.7
170°	963.7	963.1	962.6	962.1	961.5	961.2	960.9	960.7	960.6	960.4	961.6
172.5°	969.6	969.1	968.5	968.0	967.4	967.0	966.9	966.7	966.5	966.3	967.6
175°	976.9	976.3	975.8	975.3	974.7	974.2	973.9	973.5	973.1	972.7	974.0
177.5°	979.9	979.4	979.0	978.5	978.1	977.7	977.5	977.1	976.9	976.6	977.5
180°	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5



TEST NUMBER: P331570-930

CATALOG NUMBER: S122DIW-S865D970U930-4F0-1E-UDD-D1

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°	180.2	189.9	199.7	206.1	209.2	212.3	215.4	218.5
90°	190.2	199.4	208.7	214.8	217.9	221.0	224.0	227.1
92.5°	180.3	189.8	199.3	205.5	208.4	211.3	214.3	217.2
95°	195.5	204.6	213.8	219.6	222.2	224.7	227.2	229.7
97.5°	221.8	230.6	239.5	245.4	248.2	251.0	253.8	256.6
100°	239.9	248.8	257.7	263.4	265.9	268.3	270.8	273.2
102.5°	260.9	269.7	278.6	284.2	286.7	289.2	291.6	294.1
105°	292.3	301.1	309.8	315.5	318.2	320.8	323.5	326.1
107.5°	327.0	335.3	343.5	348.5	350.3	352.1	353.9	355.7
110°	351.1	358.9	366.6	371.5	373.6	375.6	377.7	379.8



TEST NUMBER: P331570-930

CATALOG NUMBER: S122DIW-S865D970U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	375.3	382.5	389.8	394.5	396.8	399.0	401.3	403.5
115°	412.6	419.6	426.6	431.2	433.3	435.4	437.5	439.6
117.5°	448.3	454.9	461.6	465.9	467.8	469.7	471.6	473.5
120°	472.2	479.0	485.7	490.2	492.2	494.3	496.4	498.5
122.5°	497.5	503.6	509.7	513.6	515.5	517.4	519.3	521.1
125°	534.2	540.1	546.1	550.1	552.0	554.0	556.0	558.0
127.5°	569.7	575.0	580.3	583.8	585.3	586.9	588.3	589.9
130°	594.5	599.9	605.3	608.6	609.8	611.0	612.1	613.3
132.5°	618.4	623.2	627.9	631.0	632.3	633.7	635.0	636.3
135°	654.2	659.0	663.9	667.0	668.4	669.8	671.2	672.5
137.5°	688.4	692.6	696.9	699.5	700.4	701.3	702.2	703.1
140°	711.8	715.6	719.5	721.7	722.4	723.2	723.9	724.6
142.5°	733.9	737.1	740.4	742.2	742.7	743.2	743.8	744.3
145°	768.7	770.4	772.0	773.1	773.6	774.0	774.5	774.9
147.5°	800.1	800.6	801.3	801.5	801.4	801.3	801.1	801.0
150°	821.1	821.7	822.2	822.2	821.7	821.1	820.5	820.0
152.5°	842.5	843.3	843.9	843.9	843.3	842.5	841.8	841.1
155°	869.8	870.7	871.6	871.7	871.2	870.7	870.1	869.5
157.5°	894.9	896.1	897.3	897.5	896.7	895.8	894.9	894.0
160°	909.7	910.9	911.9	912.2	911.4	910.7	910.0	909.2
162.5°	923.2	924.5	925.8	925.9	925.0	924.1	923.2	922.4
165°	940.7	941.9	943.2	943.4	942.5	941.6	940.7	939.7
167.5°	955.0	956.3	957.6	957.7	956.8	955.9	954.9	954.0
170°	963.0	964.3	965.6	965.6	964.5	963.4	962.3	961.2
172.5°	968.9	970.2	971.4	971.6	970.5	969.4	968.2	967.2
175°	975.3	976.6	977.9	978.0	976.9	975.8	974.7	973.6
177.5°	978.4	979.2	980.1	980.1	979.2	978.4	977.5	976.6
180°	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5

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