

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: P331378-930

Luminaire Tested: **S122DIP-S865D330U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331378-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S865D330U930-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3916.4 lumens  
Efficiency: N/A  
Efficacy: 90.0 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: Semi-Direct

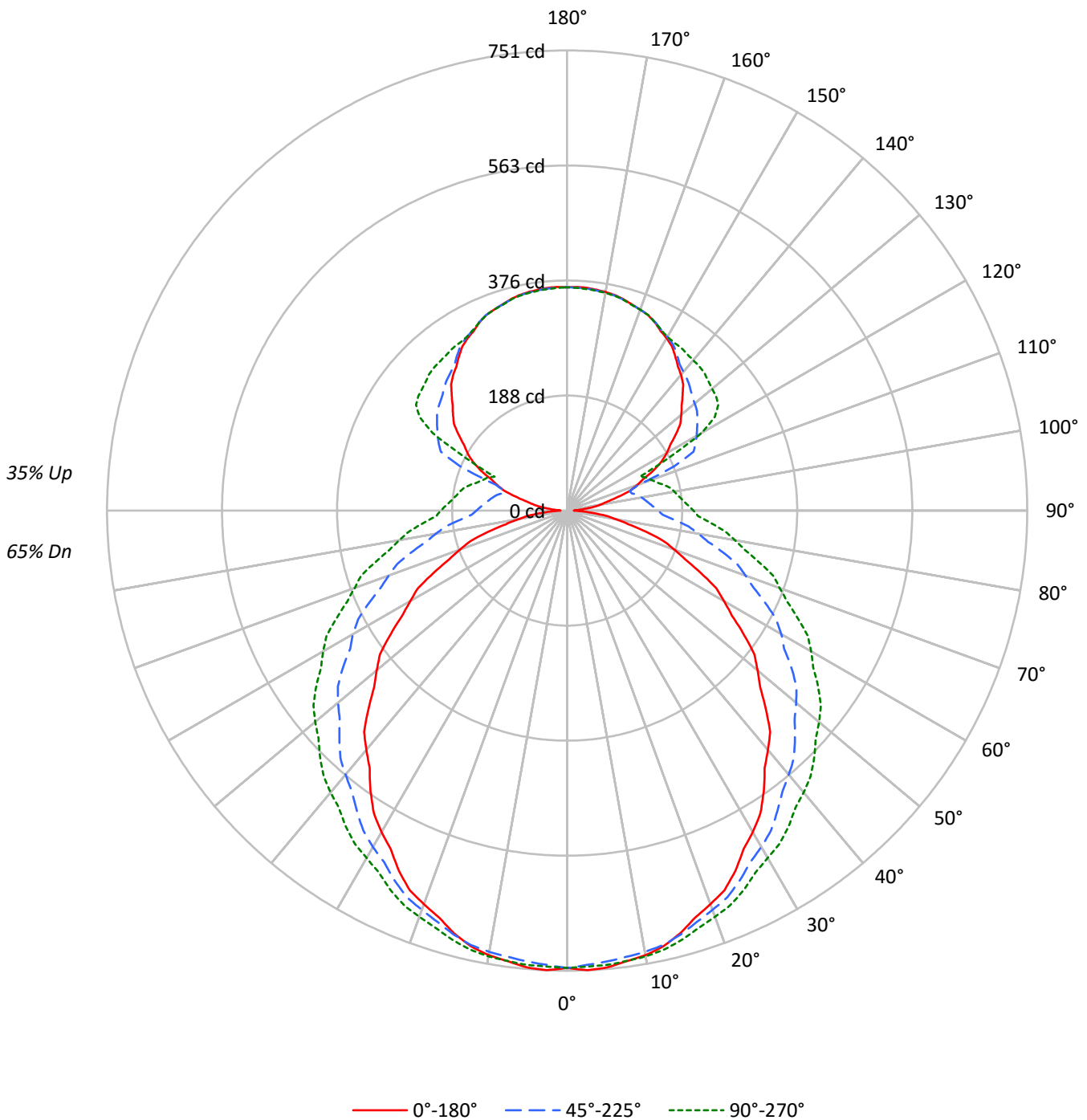
Input Watts (W): 43.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P331378-930

CATALOG NUMBER: S122DIP-S865D330U930-4F0-1E-UDD-D

**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	111	111	111	111	104	104	104	104	91	91	91	80	80	80	70	70	70	65
1	99	94	89	85	93	88	84	80	77	74	71	68	65	63	58	57	55	50
2	89	81	74	68	84	76	70	64	67	62	57	58	54	51	50	47	45	41
3	81	70	62	56	76	66	59	53	58	52	47	51	46	42	44	40	37	34
4	74	62	53	47	69	58	50	44	51	45	40	45	40	36	39	35	32	28
5	68	55	46	40	63	52	44	38	46	39	34	40	35	31	35	31	27	24
6	62	49	41	34	58	47	39	33	41	35	30	36	31	27	32	27	24	21
7	58	44	36	30	54	42	34	29	37	31	26	33	27	23	29	24	21	18
8	54	40	32	26	50	38	31	25	34	28	23	30	25	21	26	22	19	16
9	50	37	29	23	47	35	28	23	31	25	21	28	22	19	24	20	17	15
10	47	34	26	21	44	32	25	20	29	23	19	26	20	17	23	18	15	13

**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



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.7	1.8
10°-20°	202.8	5.2
20°-30°	307.4	7.8
30°-40°	374.4	9.6
40°-50°	402.8	10.3
50°-60°	391.1	10.0
60°-70°	341.5	8.7
70°-80°	262.9	6.7
80°-90°	177.4	4.5
90°-100°	133.7	3.4
100°-110°	133.3	3.4
110°-120°	177.8	4.5
120°-130°	229.4	5.9
130°-140°	222.9	5.7
140°-150°	196.8	5.0
150°-160°	156.3	4.0
160°-170°	100.7	2.6
170°-180°	34.7	0.9
0°-30°	580.9	14.8
0°-40°	955.3	24.4
0°-60°	1749.2	44.7
0°-90°	2531.0	64.6
90°-120°	444.8	11.4
90°-150°	1093.8	27.9
90°-180°	1385.0	35.4
0°-180°	3916.4	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	77	148	191	206	8
95°	26	69	135	176	190	28
105°	86	122	109	148	163	92
115°	156	174	228	143	131	153
125°	216	222	260	289	301	193
135°	266	271	284	308	317	206
145°	308	308	312	320	324	193
155°	339	337	340	341	339	156
165°	357	356	356	358	356	101
175°	365	363	364	365	363	35
180°	364	364	364	364	364	



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CATALOG NUMBER: S122DIP-S865D330U930-4F0-1E-UDD-D

**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	35.7	50.1	64.7	79.1	94.1	109.6	125.0	140.5	156.0	165.8
90°	11.1	25.7	40.3	54.9	69.5	84.6	100.5	116.3	132.2	148.1	158.0
92.5°	15.2	28.2	41.1	54.1	66.9	81.0	96.0	111.0	126.1	141.1	150.7
95°	25.8	35.1	44.5	53.9	63.3	75.3	90.2	105.0	119.8	134.7	144.1
97.5°	41.6	46.1	50.8	55.4	60.0	69.7	84.5	99.3	114.1	128.9	138.0
100°	54.2	55.1	56.0	56.8	57.7	65.4	79.8	94.3	108.8	123.2	132.6
102.5°	67.3	73.7	80.1	86.6	93.0	98.6	103.3	108.1	112.8	117.6	126.9
105°	85.5	94.2	103.0	111.7	120.5	123.1	119.6	116.1	112.6	109.1	118.2
107.5°	107.6	114.6	121.6	128.7	135.6	135.5	128.3	121.1	113.9	106.6	114.1
110°	121.1	127.1	133.2	139.3	145.3	145.7	140.6	135.4	130.3	125.1	126.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	134.6	139.7	144.9	150.0	155.2	161.2	168.2	175.2	182.2	189.3	175.6
115°	155.9	159.6	163.2	166.8	170.5	178.4	190.7	203.0	215.2	227.6	207.7
117.5°	173.8	176.7	179.5	182.4	185.2	192.2	203.2	214.2	225.2	236.2	236.8
120°	187.8	189.6	191.4	193.3	195.1	201.4	212.1	222.7	233.4	244.1	251.5
122.5°	199.6	200.9	202.2	203.5	204.8	210.6	220.8	231.0	241.2	251.4	258.3
125°	216.5	217.3	218.0	218.7	219.6	224.3	233.1	241.9	250.7	259.5	266.4
127.5°	232.8	233.3	234.0	234.6	235.2	239.0	246.1	253.1	260.1	267.2	273.7
130°	243.1	243.8	244.5	245.2	245.9	249.1	254.8	260.5	266.2	271.8	278.3
132.5°	253.6	254.2	254.8	255.4	255.8	258.4	262.9	267.5	272.1	276.5	282.7
135°	266.3	267.2	268.2	269.0	270.0	272.0	274.9	277.9	280.8	283.6	289.3
137.5°	280.1	280.7	281.4	281.9	282.6	283.7	285.4	287.0	288.7	290.3	295.3
140°	289.2	289.4	289.7	289.9	290.1	290.8	292.0	293.0	294.2	295.3	299.7
142.5°	296.8	297.0	297.2	297.3	297.5	298.1	298.9	299.7	300.5	301.3	304.9
145°	307.6	307.6	307.5	307.4	307.4	307.9	308.8	309.9	310.9	311.9	313.7
147.5°	318.0	317.8	317.6	317.3	317.2	317.5	318.5	319.5	320.5	321.5	322.0
150°	324.7	324.3	323.9	323.5	323.1	323.4	324.3	325.3	326.2	327.2	327.5
152.5°	330.4	330.0	329.5	329.1	328.6	328.8	329.7	330.6	331.5	332.4	332.7
155°	338.8	338.2	337.7	337.1	336.6	336.7	337.5	338.1	338.8	339.5	339.9
157.5°	345.2	344.8	344.3	343.9	343.4	343.5	344.0	344.5	345.0	345.4	345.8
160°	349.0	348.7	348.3	348.0	347.6	347.6	348.0	348.3	348.7	349.0	349.4
162.5°	352.4	352.0	351.7	351.3	351.0	351.0	351.2	351.6	351.9	352.2	352.6
165°	356.9	356.6	356.2	355.9	355.6	355.5	355.6	355.8	356.0	356.1	356.5
167.5°	360.3	360.0	359.6	359.2	358.9	358.8	359.0	359.1	359.3	359.5	359.9
170°	362.2	361.8	361.5	361.2	360.8	360.7	360.8	360.9	361.0	361.2	361.6
172.5°	363.5	363.1	362.7	362.4	362.1	361.9	362.1	362.2	362.3	362.4	362.8
175°	365.1	364.7	364.3	363.9	363.5	363.3	363.5	363.5	363.7	363.8	364.2
177.5°	365.3	365.0	364.7	364.4	364.0	363.9	363.9	364.0	364.0	364.1	364.4
180°	364.3	364.3	364.3	364.3	364.3	364.3	364.3	364.3	364.3	364.3	364.3



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**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°	175.7	185.6	195.4	201.9	205.0	208.1	211.2	214.3
90°	167.9	177.8	187.7	194.2	197.1	200.2	203.2	206.2
92.5°	160.3	169.8	179.4	185.7	188.7	191.6	194.5	197.5
95°	153.5	163.0	172.4	178.6	181.3	184.2	187.0	189.8
97.5°	147.2	156.3	165.4	171.4	174.3	177.2	180.1	183.0
100°	141.9	151.3	160.7	166.7	169.5	172.3	175.0	177.8
102.5°	136.2	145.5	154.8	160.9	163.7	166.5	169.3	172.1
105°	127.3	136.3	145.4	151.3	154.2	157.1	160.0	162.8
107.5°	121.6	129.0	136.4	141.5	144.4	147.2	150.2	153.0
110°	128.8	130.6	132.5	134.8	137.7	140.6	143.4	146.3





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CATALOG NUMBER: S122DIP-S865D330U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	161.9	148.2	134.6	129.1	132.0	134.8	137.6	140.5
115°	187.8	167.8	147.9	137.2	135.6	134.0	132.5	130.9
117.5°	237.3	237.8	238.4	233.0	221.6	210.2	198.8	187.4
120°	258.9	266.4	273.8	274.9	269.6	264.4	259.1	253.8
122.5°	265.2	272.2	279.2	283.0	283.7	284.5	285.2	285.9
125°	273.4	280.2	287.1	291.8	294.1	296.4	298.8	301.1
127.5°	280.2	286.8	293.3	297.7	299.9	302.1	304.2	306.3
130°	284.7	291.1	297.5	301.7	303.5	305.4	307.3	309.1
132.5°	288.9	295.0	301.1	305.1	307.0	308.8	310.7	312.6
135°	295.0	300.6	306.2	310.0	311.8	313.6	315.4	317.2
137.5°	300.4	305.3	310.3	313.6	315.0	316.4	317.8	319.3
140°	304.0	308.4	312.8	315.5	316.7	317.9	319.0	320.2
142.5°	308.5	312.0	315.6	317.9	318.8	319.8	320.7	321.7
145°	315.5	317.4	319.3	320.7	321.6	322.5	323.3	324.2
147.5°	322.5	322.9	323.4	323.8	324.2	324.5	324.8	325.1
150°	327.8	328.2	328.6	328.6	328.3	328.0	327.7	327.4
152.5°	333.1	333.5	333.8	333.8	333.4	333.0	332.6	332.2
155°	340.2	340.6	341.0	340.9	340.4	340.0	339.5	339.0
157.5°	346.3	346.7	347.0	347.0	346.5	346.1	345.6	345.2
160°	349.8	350.1	350.4	350.4	350.0	349.6	349.2	348.8
162.5°	352.9	353.4	353.8	353.8	353.2	352.7	352.2	351.7
165°	356.9	357.3	357.8	357.8	357.3	356.9	356.5	356.1
167.5°	360.3	360.7	361.1	361.0	360.5	360.0	359.5	358.9
170°	362.0	362.4	362.8	362.7	362.2	361.7	361.2	360.6
172.5°	363.2	363.6	364.0	364.0	363.5	363.0	362.4	361.9
175°	364.6	365.0	365.4	365.3	364.8	364.2	363.5	363.0
177.5°	364.8	365.1	365.4	365.3	364.9	364.5	364.1	363.7
180°	364.3	364.3	364.3	364.3	364.3	364.3	364.3	364.3

(END OF REPORT)