

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: P331678-930

Luminaire Tested: **SA2XXRDIP-C675D330U930-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331678-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C675D330U930-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 330 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

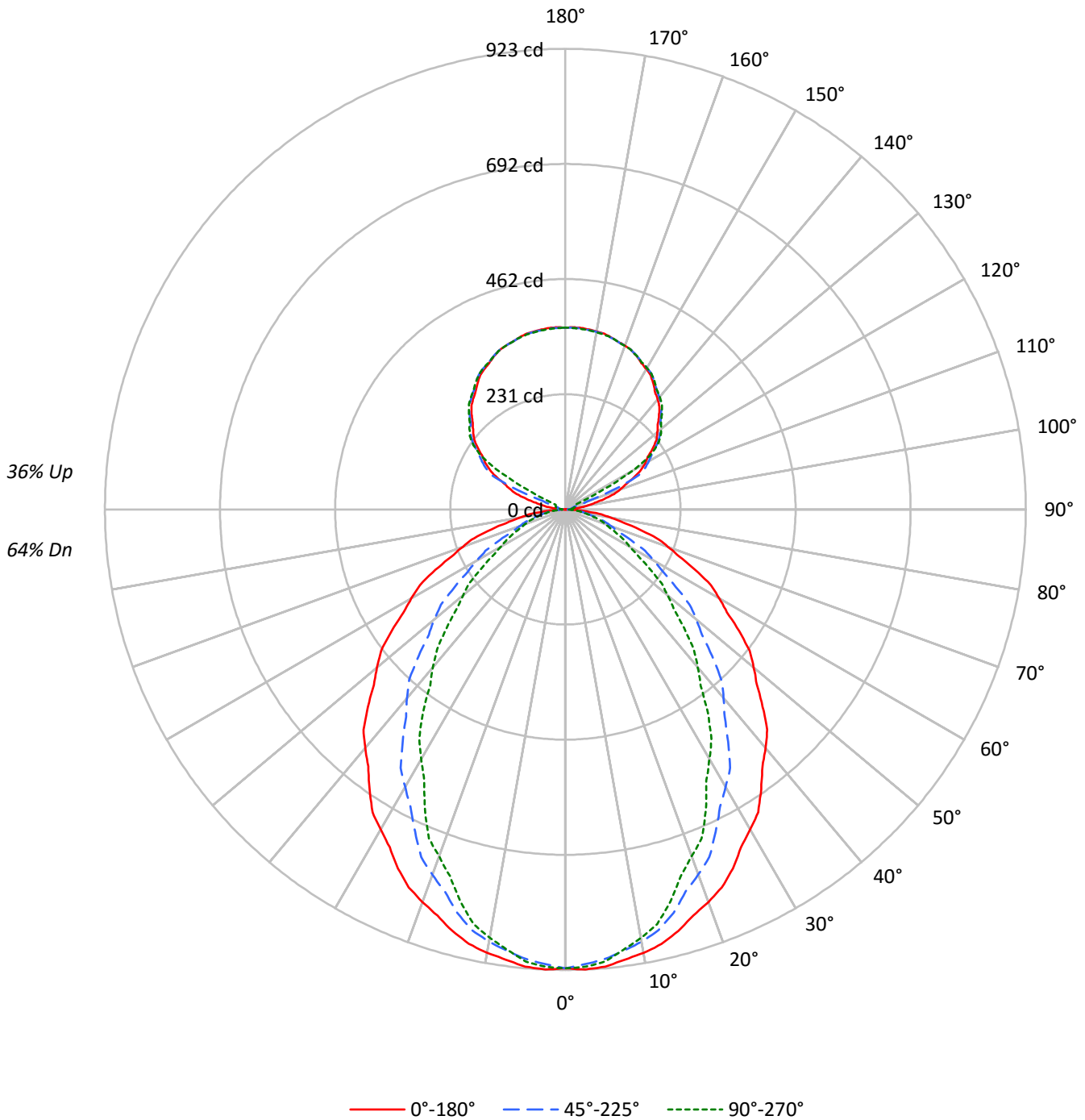
Lumens per Lamp: N/A  
Luminaire Lumens: 2960.1 lumens  
Efficiency: N/A  
Efficacy: 84.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 35  
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	110	110	110	110	104	104	104	104	91	91	91	80	80	80	69	69	69	64				
1	102	97	94	90	95	92	88	85	81	78	76	71	69	68	62	61	59	55				
2	93	86	80	75	87	81	76	71	72	68	64	63	60	57	55	53	51	47				
3	85	76	69	63	80	72	65	60	64	59	55	56	53	49	49	47	44	41				
4	78	68	60	54	73	64	57	52	57	52	47	51	46	43	45	41	39	35				
5	72	61	53	47	68	58	50	45	51	46	41	46	41	38	41	37	34	31				
6	67	55	47	41	63	52	45	39	47	41	36	42	37	33	37	33	30	28				
7	62	50	42	36	58	47	40	35	43	37	32	38	33	30	34	30	27	25				
8	58	45	38	32	54	43	36	31	39	33	29	35	30	27	31	27	25	22				
9	54	42	34	29	51	40	33	28	36	30	26	32	28	24	29	25	22	20				
10	50	38	31	26	48	37	30	26	33	28	24	30	25	22	27	23	20	19				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	14849	14849	14849
5°	14906	14663	14744
10°	14791	14423	14300
15°	14621	13996	13593
20°	14387	13385	12713
25°	14145	12691	11863
30°	13811	11979	10769
35°	13484	11203	9810
40°	13156	10404	8701
45°	12771	9501	7695
50°	12376	8593	6712
55°	11972	7614	5762
60°	11502	6584	4782
65°	10968	5532	4359
70°	10334	4556	4008
75°	9551	4155	3737
80°	8433	3710	3403
85°	6632	2927	2927



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.1	2.9
10°-20°	236.4	8.0
20°-30°	331.9	11.2
30°-40°	361.9	12.2
40°-50°	332.8	11.2
50°-60°	261.4	8.8
60°-70°	170.4	5.8
70°-80°	87.9	3.0
80°-90°	23.7	0.8
90°-100°	12.1	0.4
100°-110°	44.6	1.5
110°-120°	119.1	4.0
120°-130°	196.6	6.6
130°-140°	209.1	7.1
140°-150°	194.4	6.6
150°-160°	156.3	5.3
160°-170°	100.7	3.4
170°-180°	34.7	1.2
0°-30°	654.4	22.1
0°-40°	1016.3	34.3
0°-60°	1610.5	54.4
0°-90°	1892.4	63.9
90°-120°	175.8	5.9
90°-150°	776.0	26.2
90°-180°	1068.0	36.1
0°-180°	2960.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	920	920	920	920	920	
5°	920	915	905	912	910	87
15°	875	864	837	822	813	246
25°	794	766	712	680	666	365
35°	684	640	568	518	498	428
45°	559	502	416	359	337	432
55°	425	359	270	222	205	380
65°	287	219	145	118	114	285
75°	153	96	67	61	60	162
85°	36	19	16	16	16	42
90°	0	3	5	7	7	2
95°	17	9	10	12	11	21
105°	80	84	16	19	20	86
115°	152	156	163	46	22	149
125°	214	218	223	225	225	191
135°	265	269	272	274	274	205
145°	308	308	312	314	312	192
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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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	919.7	919.7	919.7	919.7	919.7	919.7	919.7	919.7	919.7	919.7	919.7
2.5°	923.0	922.3	921.5	920.8	920.1	918.8	917.2	915.6	914.0	912.4	913.9
5°	919.7	918.8	917.9	916.9	916.0	914.4	911.9	909.5	907.1	904.7	906.4
7.5°	910.2	909.1	907.9	906.8	905.6	903.6	900.8	898.1	895.2	892.4	892.8
10°	902.2	900.9	899.6	898.3	897.0	894.5	890.8	887.1	883.5	879.7	879.2
12.5°	892.2	890.6	889.0	887.5	885.8	882.7	878.0	873.3	868.5	863.7	862.7
15°	874.7	872.7	870.7	868.6	866.6	862.4	856.1	849.9	843.6	837.3	833.8
17.5°	853.3	850.2	847.1	843.9	840.8	835.3	827.2	819.1	811.1	803.0	798.8
20°	837.3	833.6	829.9	826.2	822.5	816.0	806.7	797.5	788.3	779.0	774.4
22.5°	819.9	815.9	811.7	807.6	803.4	796.1	785.7	775.3	764.8	754.4	748.4
25°	794.0	788.1	782.2	776.2	770.4	761.2	749.1	736.9	724.6	712.4	704.8
27.5°	762.7	756.3	749.8	743.4	736.9	726.8	713.1	699.4	685.6	671.8	663.0
30°	740.8	733.7	726.7	719.7	712.7	701.7	686.9	672.1	657.3	642.5	633.1
32.5°	719.4	711.2	703.0	694.8	686.6	674.9	659.8	644.7	629.7	614.6	603.8
35°	684.1	674.7	665.3	655.8	646.5	633.6	617.3	601.0	584.7	568.4	556.8
37.5°	648.9	638.5	628.1	617.8	607.4	593.5	576.3	558.9	541.5	524.2	511.4
40°	624.2	613.1	602.0	590.9	579.8	565.3	547.4	529.5	511.5	493.6	480.5
42.5°	598.9	587.3	575.5	563.9	552.2	537.0	518.5	500.0	481.4	462.9	449.3
45°	559.3	546.9	534.5	522.1	509.7	493.8	474.4	455.0	435.5	416.1	403.0
47.5°	520.7	507.5	494.4	481.3	468.1	451.6	431.5	411.5	391.4	371.4	358.3
50°	492.7	479.6	466.4	453.3	440.2	423.5	403.1	382.8	362.4	342.1	329.3
52.5°	465.5	451.7	438.0	424.3	410.5	393.7	373.8	353.9	334.0	314.1	301.8
55°	425.3	410.9	396.5	382.0	367.6	350.4	330.4	310.5	290.5	270.5	259.4
57.5°	384.2	369.4	354.6	339.8	325.0	308.0	288.8	269.6	250.4	231.2	221.0
60°	356.2	341.4	326.6	311.9	297.0	280.1	261.1	242.0	223.0	203.9	194.4
62.5°	328.9	314.1	299.3	284.5	269.7	253.2	235.1	217.0	198.8	180.6	171.6
65°	287.1	272.1	257.1	242.2	227.2	211.4	194.8	178.1	161.4	144.8	138.5
67.5°	246.9	232.0	217.1	202.3	187.4	172.4	157.4	142.5	127.5	112.5	109.7
70°	218.9	204.5	190.0	175.6	161.2	147.6	134.9	122.1	109.3	96.5	94.7
72.5°	192.2	178.4	164.6	150.7	136.9	124.9	114.6	104.4	94.2	83.9	82.3
75°	153.1	140.2	127.3	114.3	101.3	91.7	85.4	79.2	72.9	66.6	65.3
77.5°	114.7	103.3	92.0	80.6	69.3	62.0	59.0	56.0	53.0	50.0	49.2
80°	90.7	81.3	71.8	62.5	53.0	47.4	45.5	43.6	41.8	39.9	39.2
82.5°	68.7	61.4	54.1	46.6	39.3	35.0	33.8	32.4	31.2	30.0	29.5
85°	35.8	31.9	28.0	24.1	20.2	18.0	17.4	17.0	16.4	15.8	15.8
87.5°	10.7	9.6	8.6	7.6	6.5	6.0	6.1	6.2	6.3	6.4	6.3
90°	0.2	0.9	1.5	2.2	2.9	3.4	3.8	4.3	4.8	5.3	5.5
92.5°	5.3	5.3	5.2	5.1	5.1	5.2	5.4	5.6	5.9	6.1	6.3
95°	17.1	15.2	13.3	11.3	9.4	8.6	9.0	9.5	9.9	10.3	10.6
97.5°	34.0	28.5	23.1	17.7	12.2	9.9	10.9	11.8	12.8	13.8	14.0
100°	46.6	38.6	30.6	22.6	14.6	11.0	12.1	13.0	14.0	15.0	15.5
102.5°	60.6	58.9	57.2	55.5	53.8	48.8	40.4	32.1	23.8	15.4	16.1
105°	80.1	81.9	83.6	85.4	87.2	80.1	64.1	48.1	32.0	16.1	16.7
107.5°	102.4	103.9	105.3	106.7	108.1	99.2	80.1	60.9	41.7	22.5	21.9
110°	116.8	118.0	119.3	120.5	121.7	113.8	96.9	80.0	63.0	46.1	40.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	130.3	131.3	132.5	133.5	134.6	133.1	128.9	124.7	120.5	116.3	95.0
115°	151.6	152.5	153.6	154.6	155.6	156.8	158.2	159.7	161.2	162.7	135.5
117.5°	170.6	171.7	172.8	174.0	175.0	176.1	177.2	178.1	179.1	180.2	173.6
120°	184.5	185.4	186.3	187.2	188.0	189.0	190.0	191.1	192.2	193.2	194.0
122.5°	196.3	197.3	198.2	199.1	200.1	201.1	202.2	203.3	204.6	205.7	206.1
125°	214.3	215.1	215.8	216.6	217.4	218.3	219.4	220.5	221.6	222.7	223.1
127.5°	230.6	231.5	232.3	233.2	234.0	234.8	235.6	236.5	237.3	238.1	238.7
130°	240.9	241.9	242.8	243.8	244.7	245.5	246.1	246.8	247.4	248.1	248.7
132.5°	251.5	252.3	253.1	253.9	254.7	255.4	256.0	256.7	257.3	258.0	258.5
135°	265.2	266.1	267.1	268.0	269.0	269.7	270.2	270.8	271.3	271.8	272.4
137.5°	279.1	279.7	280.4	281.0	281.7	282.3	282.9	283.5	284.1	284.7	285.3
140°	288.1	288.6	289.0	289.5	290.0	290.6	291.2	291.9	292.5	293.1	293.7
142.5°	295.7	296.1	296.5	297.0	297.4	298.0	298.7	299.5	300.2	300.9	301.4
145°	307.6	307.6	307.5	307.4	307.4	307.9	308.8	309.9	310.9	311.9	312.3
147.5°	318.0	317.8	317.6	317.3	317.2	317.5	318.5	319.5	320.5	321.5	321.7
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°	919.7	919.7	919.7	919.7	919.7	919.7	919.7	919.7
2.5°	915.3	916.8	918.3	918.8	918.6	918.3	918.0	917.7
5°	908.0	909.7	911.3	911.9	911.3	910.8	910.3	909.7
7.5°	893.3	893.8	894.3	894.1	893.1	892.2	891.2	890.2
10°	878.6	878.1	877.5	876.7	875.5	874.5	873.3	872.2
12.5°	861.8	860.8	859.7	858.3	856.5	854.7	852.8	850.9
15°	830.3	826.7	823.2	820.5	818.7	816.8	815.0	813.2
17.5°	794.7	790.4	786.3	782.6	779.4	776.2	773.1	769.9
20°	769.8	765.2	760.5	756.2	752.1	748.0	744.0	739.9
22.5°	742.5	736.5	730.6	726.1	723.0	720.0	717.0	714.0
25°	697.2	689.7	682.1	676.9	674.2	671.4	668.6	665.9
27.5°	654.1	645.3	636.5	629.8	625.4	621.0	616.6	612.2
30°	623.7	614.2	604.8	597.6	592.6	587.6	582.6	577.6
32.5°	593.0	582.3	571.5	563.8	559.1	554.4	549.7	545.0
35°	545.2	533.5	521.9	514.0	509.9	505.8	501.8	497.7
37.5°	498.5	485.7	472.9	464.1	459.4	454.8	450.1	445.5
40°	467.2	454.1	441.0	432.0	427.2	422.4	417.6	412.8
42.5°	435.8	422.2	408.6	399.5	394.8	390.2	385.6	380.8
45°	389.9	376.7	363.6	354.8	350.4	345.9	341.5	337.0
47.5°	345.3	332.2	319.1	310.6	306.6	302.6	298.5	294.5
50°	316.6	303.8	291.1	282.7	278.8	274.9	271.1	267.2
52.5°	289.5	277.1	264.8	256.9	253.3	249.7	246.1	242.6
55°	248.3	237.2	226.1	218.8	215.3	211.7	208.2	204.7
57.5°	210.8	200.7	190.5	183.9	181.0	178.1	175.0	172.1
60°	185.1	175.6	166.2	160.0	157.0	154.1	151.1	148.1
62.5°	162.7	153.6	144.6	139.3	137.5	135.7	134.0	132.2
65°	132.2	126.0	119.7	116.3	115.7	115.1	114.5	114.1
67.5°	106.7	103.9	101.0	99.2	98.7	98.1	97.5	96.9
70°	92.9	91.0	89.1	87.9	87.1	86.3	85.6	84.9
72.5°	80.8	79.2	77.7	76.7	76.2	75.8	75.3	74.9
75°	64.0	62.7	61.4	60.7	60.5	60.3	60.1	59.9
77.5°	48.4	47.7	47.0	46.5	46.1	45.9	45.6	45.2
80°	38.5	37.7	37.0	36.6	36.6	36.6	36.6	36.6
82.5°	29.1	28.6	28.2	28.0	28.0	28.0	28.0	28.0
85°	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
87.5°	6.2	6.1	6.0	6.0	6.0	6.0	6.0	6.1
90°	5.9	6.1	6.4	6.7	6.8	6.8	7.0	7.1
92.5°	6.4	6.6	6.7	6.8	6.9	7.0	7.0	7.1
95°	10.8	11.2	11.4	11.6	11.5	11.4	11.4	11.3
97.5°	14.3	14.4	14.7	14.8	14.9	15.0	15.1	15.2
100°	16.0	16.5	16.9	17.2	17.3	17.4	17.5	17.7
102.5°	16.6	17.3	17.9	18.3	18.4	18.6	18.8	18.9
105°	17.4	18.0	18.7	19.1	19.3	19.6	19.8	20.1
107.5°	21.2	20.5	19.9	19.6	19.9	20.1	20.4	20.6
110°	34.4	28.5	22.7	19.9	20.1	20.4	20.6	20.8





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CATALOG NUMBER: SA2XXRDIP-C675D330U930-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	73.6	52.3	30.9	20.3	20.5	20.6	20.9	21.0
115°	108.4	81.3	54.1	38.5	34.2	30.1	25.8	21.6
117.5°	167.1	160.5	153.9	143.7	129.9	116.0	102.2	88.3
120°	194.6	195.3	196.0	192.4	184.5	176.6	168.7	160.8
122.5°	206.5	206.9	207.3	206.8	205.3	203.7	202.2	200.6
125°	223.6	224.0	224.4	224.7	224.9	225.0	225.2	225.3
127.5°	239.4	239.9	240.5	240.8	240.9	240.9	240.9	241.0
130°	249.3	250.0	250.6	250.9	250.9	250.8	250.8	250.7
132.5°	259.1	259.6	260.2	260.4	260.3	260.3	260.2	260.2
135°	273.0	273.5	274.1	274.3	274.3	274.1	274.0	273.9
137.5°	285.8	286.4	287.0	287.1	287.0	286.8	286.6	286.4
140°	294.2	294.7	295.2	295.4	295.1	294.8	294.5	294.2
142.5°	301.9	302.4	302.9	303.0	302.6	302.4	302.1	301.7
145°	312.7	313.1	313.5	313.6	313.2	313.0	312.7	312.3
147.5°	322.0	322.4	322.7	322.7	322.5	322.2	322.0	321.7
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)