

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: P331380-840

Luminaire Tested: **SA2XXDIP-C865D330U840-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331380-840
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-C865D330U840-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

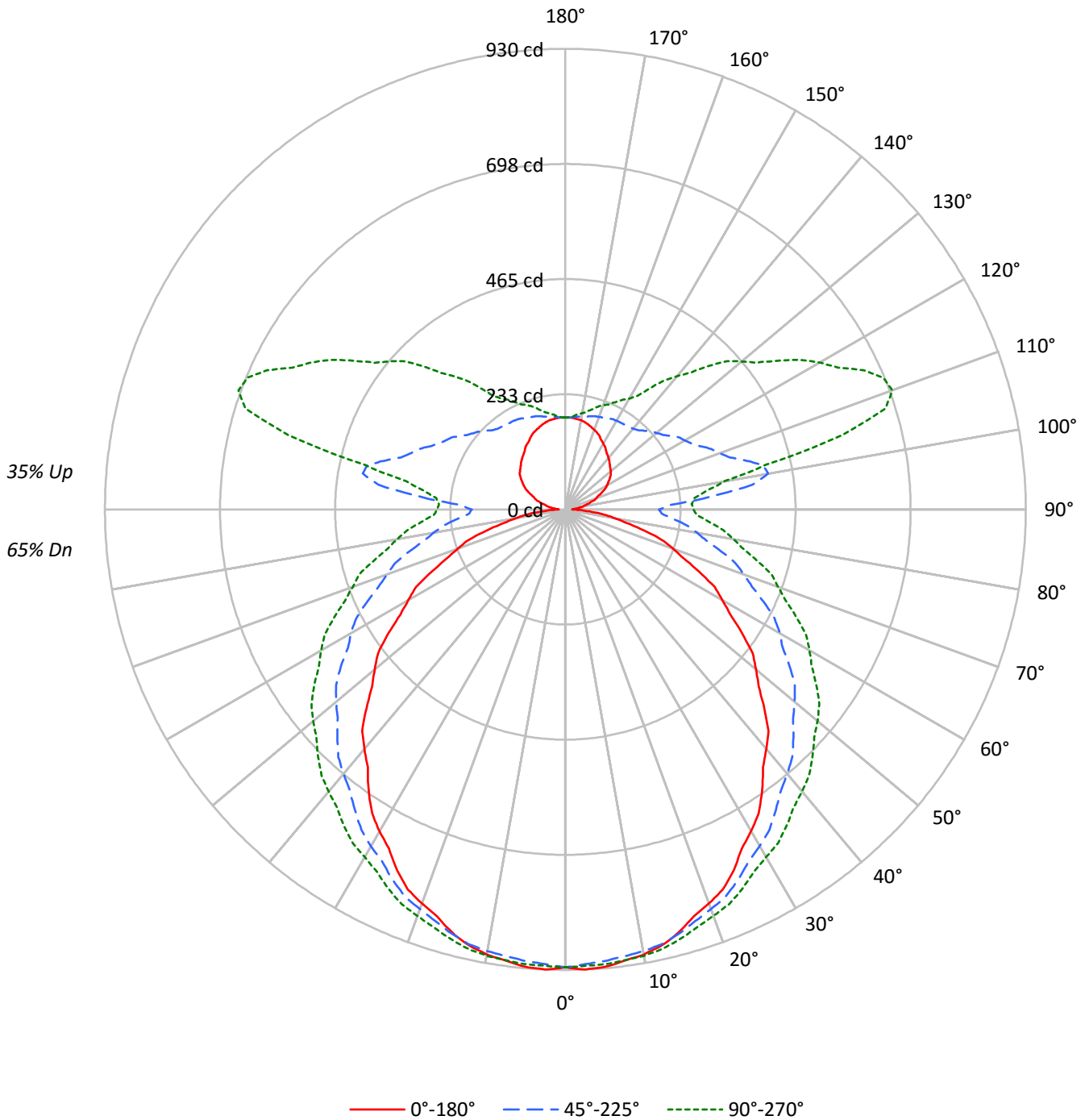
Lumens per Lamp: N/A
Luminaire Lumens: 4820.3 lumens
Efficiency: N/A
Efficacy: 110.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

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





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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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65				
1	99	94	89	85	93	88	84	80	78	74	71	68	65	63	59	57	55	51				
2	90	81	74	68	84	76	70	64	67	62	58	58	55	51	51	48	45	41				
3	81	71	62	56	76	66	59	53	58	52	48	51	46	42	44	41	37	34				
4	74	62	53	47	69	58	51	44	52	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	45	36	30	54	42	34	29	37	31	26	33	28	24	29	24	21	19				
8	54	40	32	26	50	38	31	25	34	28	23	30	25	21	26	22	19	16				
9	50	37	29	24	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	21	17	23	18	15	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14928	14928	14928
5°	15002	14370	14315
10°	14907	13945	13789
15°	14701	13496	13236
20°	14442	13015	12701
25°	14187	12551	12216
30°	13824	12074	11729
35°	13459	11611	11386
40°	13075	11219	11044
45°	12709	10869	10750
50°	12316	10551	10462
55°	11908	10209	10166
60°	11404	9856	9857
65°	10880	9439	9485
70°	10292	8992	9089
75°	9539	8554	8722
80°	8357	8107	8349
85°	7227	7720	8061



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.6	1.8
10°-20°	251.2	5.2
20°-30°	380.7	7.9
30°-40°	463.7	9.6
40°-50°	498.9	10.3
50°-60°	484.5	10.1
60°-70°	423.0	8.8
70°-80°	325.7	6.8
80°-90°	220.2	4.6
90°-100°	224.8	4.7
100°-110°	361.7	7.5
110°-120°	340.1	7.1
120°-130°	260.7	5.4
130°-140°	193.8	4.0
140°-150°	136.6	2.8
150°-160°	93.9	1.9
160°-170°	55.3	1.1
170°-180°	18.0	0.4
0°-30°	719.6	14.9
0°-40°	1183.3	24.5
0°-60°	2166.6	44.9
0°-90°	3135.6	65.0
90°-120°	926.5	19.2
90°-150°	1517.6	31.5
90°-180°	1685.0	35.0
0°-180°	4820.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	927	923	915	923	922	88
15°	884	887	887	898	898	249
25°	804	814	826	841	846	369
35°	693	716	741	769	780	433
45°	568	605	651	691	706	438
55°	436	485	553	600	619	389
65°	298	364	442	495	514	295
75°	165	240	326	381	401	174
85°	48	132	217	271	292	52
90°	14	96	189	240	258	10
95°	23	105	294	256	262	22
105°	50	113	380	633	579	54
115°	82	120	302	576	664	81
125°	110	132	258	450	523	98
135°	127	152	225	353	409	98
145°	143	165	209	268	299	90
155°	163	176	203	230	239	75
165°	178	183	194	206	209	50
175°	185	185	187	189	189	18
180°	186	186	186	186	186	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	930.0	929.3	928.6	927.9	927.2	925.9	924.2	922.6	920.9	919.3	920.5
5°	927.3	926.5	925.5	924.6	923.7	922.4	920.6	918.8	917.1	915.2	917.1
7.5°	919.0	918.4	917.8	917.3	916.7	915.6	914.2	912.9	911.5	910.2	912.3
10°	912.6	912.0	911.4	910.8	910.2	909.5	908.6	907.7	906.8	905.8	908.3
12.5°	901.8	902.0	902.1	902.2	902.3	902.0	901.4	900.7	900.1	899.4	901.8
15°	884.4	885.0	885.7	886.3	886.8	887.1	887.1	887.1	887.1	887.1	889.8
17.5°	861.9	863.1	864.4	865.7	866.9	868.0	869.0	869.9	870.9	871.8	874.6
20°	846.9	848.4	849.9	851.4	852.8	854.2	855.4	856.6	857.8	859.0	862.2
22.5°	830.8	832.5	834.2	836.0	837.7	839.4	841.1	842.7	844.4	846.1	849.4
25°	804.1	806.1	808.2	810.3	812.3	814.8	817.4	820.1	822.7	825.5	829.0
27.5°	771.8	775.3	778.6	782.0	785.5	788.7	791.8	795.1	798.2	801.3	805.9
30°	750.4	754.3	758.2	762.0	765.9	769.8	773.7	777.5	781.4	785.3	790.0
32.5°	726.8	731.1	735.5	739.9	744.3	748.7	753.3	757.9	762.4	767.0	772.5
35°	692.8	697.8	703.0	708.0	713.1	718.4	724.1	729.7	735.4	741.0	747.6
37.5°	655.8	661.7	667.5	673.3	679.1	685.7	693.1	700.4	707.7	715.1	722.4
40°	631.2	637.7	644.3	650.9	657.3	664.7	672.7	680.8	688.8	696.8	704.6
42.5°	607.5	614.1	620.7	627.2	633.8	641.7	650.9	660.1	669.3	678.6	687.0
45°	568.2	576.2	584.2	592.3	600.4	609.6	620.0	630.5	640.9	651.3	660.5
47.5°	529.3	538.1	546.8	555.6	564.3	574.8	587.0	599.3	611.5	623.7	633.3
50°	502.5	511.7	521.0	530.2	539.5	550.8	564.1	577.5	591.0	604.4	614.5
52.5°	476.8	486.5	496.2	505.9	515.6	527.6	541.7	555.7	569.9	584.0	594.3
55°	435.6	446.3	457.0	467.7	478.4	491.5	507.0	522.5	538.0	553.4	564.1
57.5°	394.8	406.9	419.0	431.0	443.1	457.1	472.8	488.7	504.4	520.2	531.8
60°	365.9	378.6	391.4	404.2	417.1	431.9	448.9	465.9	482.8	499.9	511.2
62.5°	340.1	353.4	366.7	379.9	393.2	408.4	425.4	442.3	459.3	476.3	488.3
65°	297.5	312.0	326.7	341.2	355.9	371.9	389.5	407.1	424.6	442.2	454.4
67.5°	258.3	273.6	288.8	304.1	319.3	336.0	354.0	371.9	389.9	407.9	420.2
70°	230.5	246.0	261.5	276.9	292.5	309.4	327.9	346.3	364.8	383.2	396.1
72.5°	204.8	220.8	236.7	252.7	268.6	285.9	304.7	323.4	342.0	360.7	373.3
75°	164.8	181.5	198.1	214.9	231.6	249.4	268.4	287.5	306.6	325.6	338.4
77.5°	126.2	143.7	161.2	178.5	196.0	214.4	233.8	253.2	272.5	291.9	304.6
80°	100.5	118.7	136.8	155.0	173.2	191.9	211.3	230.7	249.9	269.3	281.9
82.5°	79.1	96.9	114.9	132.8	150.8	169.6	189.1	208.7	228.3	247.9	260.4
85°	48.3	66.8	85.1	103.6	122.1	140.9	159.9	178.9	198.0	217.1	229.6
87.5°	26.4	44.3	62.3	80.2	98.2	116.7	136.1	155.7	175.2	194.3	206.4
90°	13.7	32.1	50.8	68.8	86.7	106.0	126.8	148.5	169.6	189.0	200.6
92.5°	16.7	34.6	53.3	71.0	89.5	110.1	136.4	166.1	194.6	213.6	218.1
95°	23.2	38.7	56.1	73.4	93.1	117.6	151.9	200.8	260.0	294.0	287.8
97.5°	29.7	44.1	60.3	77.7	96.6	121.2	159.0	219.3	305.3	381.3	404.0
100°	36.9	49.0	63.2	79.9	98.1	121.9	157.4	217.7	311.4	415.9	478.3
102.5°	42.3	53.2	66.4	82.2	99.8	122.9	156.5	211.5	299.0	409.8	501.4
105°	50.2	60.3	71.4	85.4	101.9	123.9	156.2	203.5	277.8	379.6	484.9
107.5°	60.3	68.3	77.7	89.5	104.1	125.1	156.2	198.7	262.2	348.4	442.2
110°	66.0	73.4	81.5	92.1	105.5	126.1	156.4	196.7	254.9	332.2	415.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	72.3	78.8	86.1	95.5	107.8	127.7	156.8	194.9	248.3	318.5	394.5
115°	82.1	87.2	92.5	100.1	110.5	128.5	157.2	192.4	240.4	301.6	367.0
117.5°	90.9	94.4	98.8	104.6	113.6	130.9	157.5	190.3	233.0	287.3	345.2
120°	97.1	99.8	103.1	107.6	115.8	132.4	158.2	189.3	228.7	278.8	332.5
122.5°	103.1	104.7	107.3	111.4	119.0	135.1	159.4	188.3	225.0	271.2	320.9
125°	109.8	110.8	112.9	117.2	124.3	139.1	161.5	187.0	218.7	258.2	303.1
127.5°	116.0	117.1	119.9	124.2	130.8	144.8	164.9	187.0	214.0	247.3	286.3
130°	119.7	120.9	124.1	128.9	135.6	148.7	167.3	187.1	211.3	240.3	275.3
132.5°	123.1	124.5	128.2	133.1	140.2	152.5	169.3	187.3	208.5	233.7	265.2
135°	126.9	128.4	132.7	138.0	146.2	157.6	172.1	187.5	204.8	224.9	251.5
137.5°	131.8	133.4	137.6	143.3	151.4	161.3	173.9	186.8	201.2	217.0	239.6
140°	135.5	136.6	140.6	146.0	153.6	163.0	174.3	185.9	198.6	212.5	232.6
142.5°	139.3	140.1	143.8	149.2	156.4	165.0	175.6	186.5	197.8	210.4	227.5
145°	143.4	144.9	148.5	153.8	161.0	168.7	178.4	188.4	198.3	209.0	222.3
147.5°	149.5	150.5	153.9	158.9	164.8	171.8	180.9	189.7	198.6	207.8	218.0
150°	153.4	154.5	157.3	162.0	167.3	173.8	182.0	190.2	198.3	206.9	215.5
152.5°	157.4	157.9	160.8	164.8	170.0	175.7	183.1	190.5	197.8	205.5	213.5
155°	163.1	163.4	165.5	169.5	173.4	178.7	184.8	190.9	196.9	203.0	209.8
157.5°	167.7	168.1	169.9	173.3	176.4	180.9	186.0	190.9	195.3	200.5	206.3
160°	170.9	171.3	172.7	175.5	178.4	182.4	186.6	190.9	194.5	198.7	203.7
162.5°	174.1	173.8	175.3	177.5	180.2	183.2	186.9	190.6	193.6	197.3	201.5
165°	177.7	177.3	178.0	180.2	182.0	184.1	187.3	189.9	192.0	194.5	197.6
167.5°	180.7	180.3	180.9	182.3	183.6	184.9	187.2	189.3	190.4	192.0	194.0
170°	182.7	182.0	182.4	183.4	184.1	185.2	186.9	188.7	189.5	190.6	192.0
172.5°	183.8	183.4	183.2	184.3	184.7	185.5	186.7	187.9	188.3	188.8	190.0
175°	185.2	184.8	184.5	185.2	185.2	185.5	186.2	186.9	186.6	186.9	187.3
177.5°	185.8	185.2	185.0	185.5	185.5	185.5	185.8	186.4	185.8	185.5	185.8
180°	185.5	185.5	185.5	185.5	185.5	185.5	185.5	185.5	185.5	185.5	185.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	921.6	922.8	924.0	924.4	923.9	923.4	922.9	922.5
5°	918.8	920.6	922.4	923.1	922.8	922.5	922.2	921.9
7.5°	914.4	916.6	918.8	919.7	919.4	919.1	918.8	918.5
10°	910.6	913.0	915.4	916.5	916.1	915.8	915.5	915.2
12.5°	904.2	906.6	909.0	910.0	909.7	909.4	909.1	908.8
15°	892.4	895.1	897.9	899.0	898.7	898.4	898.1	897.9
17.5°	877.5	880.2	883.0	884.4	884.4	884.4	884.4	884.4
20°	865.6	868.8	872.0	873.7	873.7	873.7	873.7	873.7
22.5°	852.6	856.0	859.2	861.1	861.5	862.0	862.5	863.0
25°	832.6	836.2	839.8	842.0	842.8	843.7	844.7	845.6
27.5°	810.4	815.0	819.4	822.0	822.7	823.3	824.0	824.7
30°	794.8	799.5	804.4	807.2	808.0	808.9	809.8	810.7
32.5°	778.0	783.5	788.9	792.5	794.1	795.7	797.3	798.9
35°	754.2	760.7	767.3	771.5	773.7	775.8	777.8	779.9
37.5°	729.5	736.8	744.1	748.8	751.0	753.3	755.5	757.7
40°	712.3	720.0	727.8	733.0	735.7	738.3	741.0	743.8
42.5°	695.5	704.0	712.5	718.0	720.6	723.4	726.0	728.7
45°	669.7	678.9	688.2	694.3	697.3	700.2	703.3	706.2
47.5°	643.0	652.6	662.3	668.7	672.0	675.3	678.5	681.9
50°	624.6	634.7	644.9	651.6	654.8	658.1	661.4	664.7
52.5°	604.7	615.1	625.4	632.4	635.9	639.4	642.9	646.4
55°	574.9	585.6	596.3	603.6	607.4	611.4	615.2	619.0
57.5°	543.3	554.8	566.4	574.2	578.0	582.0	585.9	589.9
60°	522.5	533.8	545.1	552.8	557.0	561.2	565.3	569.6
62.5°	500.3	512.3	524.3	532.4	536.2	540.2	544.1	548.1
65°	466.7	478.9	491.1	499.1	502.9	506.9	510.7	514.5
67.5°	432.5	444.8	457.3	465.4	469.5	473.5	477.6	481.6
70°	408.9	421.6	434.4	442.6	446.3	449.8	453.4	457.0
72.5°	385.9	398.4	411.0	419.4	423.7	428.0	432.3	436.6
75°	351.2	364.1	376.9	385.2	389.1	392.9	396.8	400.7
77.5°	317.4	330.1	342.8	351.3	355.5	359.6	363.9	368.0
80°	294.4	306.9	319.4	327.7	331.8	336.1	340.2	344.4
82.5°	273.0	285.4	297.9	306.2	310.1	314.0	317.9	321.8
85°	242.1	254.6	267.1	275.5	279.6	283.8	287.9	292.2
87.5°	218.4	230.5	242.8	250.9	254.7	258.4	262.3	266.1
90°	212.2	223.3	235.9	244.1	247.6	251.2	254.8	258.3
92.5°	221.7	228.9	237.6	243.1	246.3	248.7	252.6	255.6
95°	270.2	259.7	256.1	255.7	254.6	255.4	257.8	261.8
97.5°	382.7	354.2	326.5	308.0	294.5	289.2	287.5	288.0
100°	481.8	448.6	410.7	374.7	348.3	336.3	329.2	326.1
102.5°	544.3	545.1	520.2	481.4	452.5	429.6	420.0	414.5
105°	569.7	620.4	635.4	630.5	611.7	592.8	580.8	579.1
107.5°	531.0	601.7	648.8	672.7	678.7	680.9	681.1	677.7
110°	500.5	573.8	629.0	664.7	683.4	693.4	699.8	702.8



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CATALOG NUMBER: SA2XXDIP-C865D330U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	471.8	542.7	601.0	641.0	665.6	680.1	689.5	694.7
115°	434.7	498.7	554.3	597.1	625.8	645.5	658.0	664.5
117.5°	403.9	461.0	512.2	552.6	581.5	601.9	614.7	620.5
120°	386.9	439.5	485.6	523.9	552.2	572.2	585.8	592.7
122.5°	372.2	420.9	464.8	499.6	524.8	544.1	556.1	561.9
125°	349.9	394.8	434.1	466.3	489.7	505.9	517.6	523.0
127.5°	327.9	368.6	405.6	435.3	456.0	471.3	481.6	486.5
130°	313.9	351.7	387.1	415.4	435.3	449.8	459.3	464.5
132.5°	300.1	335.5	368.2	395.1	414.5	429.1	438.1	443.0
135°	280.9	310.7	340.5	364.9	382.5	396.8	405.6	409.3
137.5°	264.0	289.1	313.4	334.5	350.5	362.6	370.3	374.5
140°	253.4	275.3	296.5	315.5	328.7	339.7	346.9	350.8
142.5°	245.4	263.8	281.7	297.5	309.9	319.8	326.2	328.2
145°	235.1	248.7	261.6	273.6	283.6	291.1	296.2	298.7
147.5°	227.7	237.2	246.1	254.1	261.9	267.5	270.6	272.0
150°	224.1	232.0	239.4	245.8	251.2	255.5	257.6	258.0
152.5°	221.0	228.2	234.6	240.1	244.4	248.0	249.6	249.7
155°	216.6	222.3	227.6	231.6	235.5	238.0	239.4	238.7
157.5°	211.6	216.3	220.8	223.9	226.6	228.7	229.3	229.3
160°	208.3	212.3	216.2	218.7	221.3	223.0	223.4	223.4
162.5°	205.2	208.6	212.0	213.9	216.4	217.6	217.9	217.6
165°	200.6	203.0	205.5	206.9	208.3	209.8	209.8	209.4
167.5°	196.0	197.9	199.7	201.0	201.6	202.4	202.3	201.9
170°	193.8	194.8	196.2	196.9	197.3	198.3	198.0	197.3
172.5°	191.2	192.0	193.1	193.5	193.9	194.4	194.0	193.6
175°	188.4	188.7	189.1	189.5	189.5	189.9	189.5	188.7
177.5°	186.4	186.4	186.7	186.7	186.7	186.7	186.4	185.8
180°	185.5	185.5	185.5	185.5	185.5	185.5	185.5	185.5

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