

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: P331407-840

Luminaire Tested: **SA2XXDIP-C865D925U840-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331407-840
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-C865D925U840-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7179.3 lumens
Efficiency: N/A
Efficacy: 118.7 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

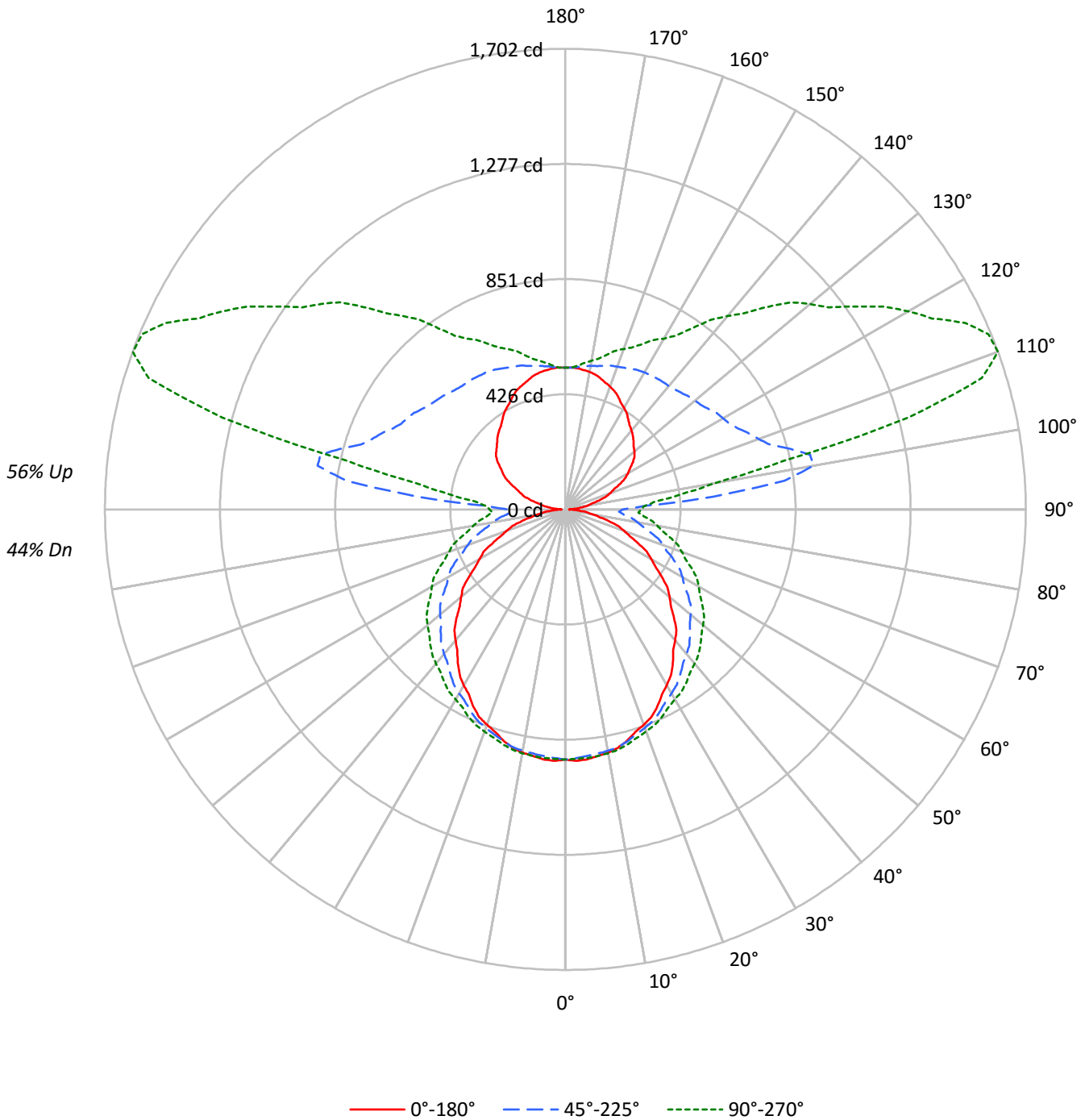
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	44
1	95	90	86	82	87	82	79	75	68	65	63	55	53	51	42	41	40	34
2	86	78	71	66	78	71	66	61	59	55	51	47	44	42	37	34	33	28
3	78	68	60	54	71	62	56	50	51	46	42	41	38	35	32	29	27	23
4	71	60	52	45	65	55	48	42	45	40	36	37	32	29	28	25	23	19
5	65	53	45	39	59	49	41	36	40	35	30	33	28	25	25	22	20	16
6	60	48	39	33	54	44	36	31	36	31	26	29	25	22	23	20	17	14
7	55	43	35	29	50	39	32	27	33	27	23	27	22	19	21	18	15	12
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	14	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	18	14	12	10
10	44	32	25	20	41	30	23	19	25	20	16	21	16	14	16	13	11	9

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	1.2
10°-20°	251.2	3.5
20°-30°	380.7	5.3
30°-40°	463.7	6.5
40°-50°	498.9	6.9
50°-60°	484.5	6.7
60°-70°	423.0	5.9
70°-80°	325.7	4.5
80°-90°	223.3	3.1
90°-100°	360.1	5.0
100°-110°	821.1	11.4
110°-120°	828.1	11.5
120°-130°	662.4	9.2
130°-140°	516.4	7.2
140°-150°	380.4	5.3
150°-160°	265.2	3.7
160°-170°	156.1	2.2
170°-180°	50.8	0.7
0°-30°	719.6	10.0
0°-40°	1183.3	16.5
0°-60°	2166.6	30.2
0°-90°	3138.6	43.7
90°-120°	2009.3	28.0
90°-150°	3568.5	49.7
90°-180°	4041.0	56.3
0°-180°	7179.3	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	105	211	261	280	11
95°	46	161	549	352	336	46
105°	130	233	862	1495	1313	138
115°	222	296	705	1409	1630	220
125°	305	363	646	1125	1306	271
135°	356	425	608	920	1058	276
145°	405	466	591	741	817	255
155°	461	497	574	649	674	212
165°	502	517	549	583	592	141
175°	523	524	528	535	533	50
180°	524	524	524	524	524	



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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°	26.5	44.8	63.4	81.5	99.7	118.7	138.8	159.3	179.5	198.7	210.7
90°	14.4	34.7	56.0	75.3	94.6	115.7	139.9	166.0	191.1	211.2	222.1
92.5°	24.6	46.2	69.5	90.0	112.9	139.7	180.8	231.2	278.1	298.2	289.5
95°	45.9	64.0	88.1	111.2	141.3	181.4	245.6	351.2	485.9	549.2	511.1
97.5°	66.9	84.7	107.9	134.0	165.0	207.2	282.7	421.9	633.4	817.1	861.1
100°	86.9	101.0	121.1	148.2	179.5	221.5	291.5	431.2	665.6	930.2	1086.4
102.5°	104.4	116.7	135.9	162.1	193.1	234.5	300.0	425.5	643.3	926.8	1165.7
105°	129.7	142.3	158.0	181.8	212.6	252.9	315.7	420.9	602.7	862.1	1140.6
107.5°	158.4	168.5	182.3	203.1	232.0	271.4	332.0	425.2	577.4	793.9	1040.7
110°	176.7	186.7	198.6	217.7	244.9	284.4	343.4	430.5	568.0	760.0	978.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	194.4	203.5	215.3	232.7	258.0	297.5	354.1	436.5	562.0	734.8	931.9
115°	222.1	230.4	239.6	255.1	278.5	314.1	370.8	445.7	556.8	705.3	873.4
117.5°	249.3	255.5	263.7	276.5	298.0	333.6	386.0	456.1	554.1	684.8	832.1
120°	267.1	272.3	279.5	289.8	311.1	345.9	397.2	463.4	553.0	672.8	809.1
122.5°	284.0	287.7	294.3	304.6	325.2	360.1	408.2	469.8	552.9	663.1	788.7
125°	305.1	308.1	314.1	326.2	346.4	379.3	425.2	480.1	552.1	646.2	758.1
127.5°	322.8	326.5	334.7	347.7	366.8	399.5	442.4	490.8	552.9	633.2	729.6
130°	333.3	337.0	346.8	360.6	380.4	411.6	453.1	497.8	554.4	625.1	710.9
132.5°	343.0	347.5	358.1	372.6	393.3	423.8	462.3	504.6	555.8	617.9	694.6
135°	356.1	360.1	372.2	387.4	410.5	440.2	475.4	513.7	557.0	608.3	672.1
137.5°	369.8	374.6	386.7	402.7	425.7	452.4	485.6	519.8	557.7	600.4	654.1
140°	380.3	384.1	395.9	411.6	433.5	459.9	490.7	522.6	557.4	595.3	643.4
142.5°	390.8	393.7	404.7	420.5	441.6	466.1	495.6	526.2	558.2	593.2	634.7
145°	405.2	409.2	419.3	434.4	454.5	476.8	503.9	532.2	560.4	590.6	624.7
147.5°	422.1	425.2	434.7	448.7	465.4	485.2	510.8	535.6	561.2	587.0	615.4
150°	433.4	436.4	444.4	457.6	472.7	490.8	514.0	537.1	560.4	584.6	608.7
152.5°	444.6	446.1	454.1	465.6	480.0	496.4	517.3	538.0	558.8	580.6	603.1
155°	460.6	461.6	467.7	478.8	489.8	504.9	522.1	539.2	556.3	573.5	592.6
157.5°	473.9	474.9	479.8	489.4	498.3	511.0	525.5	539.2	551.7	566.2	582.8
160°	482.8	483.8	487.8	495.8	503.9	515.0	527.1	539.2	549.3	561.4	575.5
162.5°	491.6	491.0	495.0	501.5	508.8	517.5	528.0	538.4	546.8	557.3	569.1
165°	501.9	500.9	502.9	509.0	514.0	520.1	529.2	536.2	542.2	549.3	558.4
167.5°	510.4	509.2	511.0	514.8	518.5	522.3	529.0	534.8	537.6	542.2	547.9
170°	516.0	514.0	515.0	518.1	520.1	523.1	528.2	533.2	535.2	538.2	542.2
172.5°	519.3	518.1	517.5	520.5	521.7	523.9	527.4	530.8	532.0	533.4	536.6
175°	523.1	522.1	521.1	523.1	523.1	524.1	526.1	528.2	527.1	528.2	529.2
177.5°	524.9	523.3	522.5	524.1	524.1	524.1	524.9	526.5	524.9	524.1	524.9
180°	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1



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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°	222.7	234.4	246.9	255.1	258.9	262.8	266.6	270.3
90°	233.0	242.9	256.8	265.5	269.1	272.7	276.3	279.8
92.5°	278.4	277.6	280.8	282.3	285.0	285.4	289.7	291.6
95°	440.8	390.6	359.6	344.9	335.4	330.8	331.4	336.0
97.5°	780.8	679.7	581.8	516.2	471.6	450.3	439.1	434.1
100°	1076.2	962.3	835.3	720.4	640.1	600.0	574.0	559.2
102.5°	1267.4	1250.0	1159.7	1037.5	950.0	879.2	846.1	824.8
105°	1360.7	1485.0	1508.5	1482.1	1422.9	1363.6	1323.6	1312.7
107.5°	1273.0	1454.6	1569.4	1624.9	1636.0	1635.8	1630.4	1615.0
110°	1200.3	1390.3	1528.8	1617.9	1664.5	1686.9	1699.3	1701.5



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CATALOG NUMBER: SA2XXDIP-C865D925U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1133.2	1315.9	1463.3	1564.4	1627.9	1663.2	1683.6	1692.4
115°	1048.6	1212.8	1353.8	1463.7	1538.5	1588.2	1617.7	1630.0
117.5°	982.2	1127.3	1255.9	1359.2	1435.1	1487.2	1517.8	1528.5
120°	947.5	1080.8	1195.9	1293.4	1367.3	1418.0	1450.5	1463.8
122.5°	918.8	1041.4	1150.6	1238.9	1305.0	1354.4	1383.2	1394.4
125°	876.0	987.8	1084.6	1165.6	1226.7	1267.7	1295.6	1306.3
127.5°	833.8	935.1	1026.1	1101.0	1154.5	1193.1	1217.4	1226.5
130°	806.8	900.6	987.3	1058.6	1110.3	1147.0	1169.5	1180.0
132.5°	780.5	867.6	947.7	1014.8	1065.8	1102.5	1123.4	1133.0
135°	743.9	816.6	889.4	950.2	995.8	1031.5	1052.1	1058.4
137.5°	713.0	774.1	832.3	885.3	926.9	957.5	975.4	983.5
140°	693.6	746.7	797.8	845.5	879.5	907.5	924.3	932.2
142.5°	678.2	723.2	766.9	806.6	838.8	864.1	879.2	881.9
145°	657.7	692.8	725.8	756.6	782.3	800.9	812.5	817.0
147.5°	642.3	668.7	693.4	715.2	735.9	750.3	757.9	760.4
150°	633.0	655.1	676.3	694.4	709.5	721.6	727.7	728.7
152.5°	624.1	644.6	662.6	678.3	690.1	700.6	705.1	705.3
155°	611.8	627.9	643.0	654.1	665.2	672.3	676.3	674.3
157.5°	597.4	611.0	623.7	632.4	640.2	646.0	647.8	647.8
160°	588.5	599.7	610.8	617.8	624.9	630.0	631.0	631.0
162.5°	579.8	589.2	598.6	604.1	611.2	614.6	615.6	614.8
165°	566.4	573.5	580.6	584.6	588.5	592.6	592.6	591.6
167.5°	553.7	559.2	564.0	567.6	569.5	571.7	571.5	570.3
170°	547.2	550.3	554.3	556.3	557.3	560.4	559.4	557.3
172.5°	540.0	542.2	545.4	546.6	547.6	549.1	548.1	546.8
175°	532.2	533.2	534.2	535.2	535.2	536.2	535.2	533.2
177.5°	526.5	526.5	527.4	527.4	527.4	527.4	526.5	524.9
180°	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1

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