

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: P331886-840

Luminaire Tested: **S123DIP-S340D805U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331886-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S340D805U840-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 805 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4695.2 lumens
Efficiency: N/A
Efficacy: 150.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

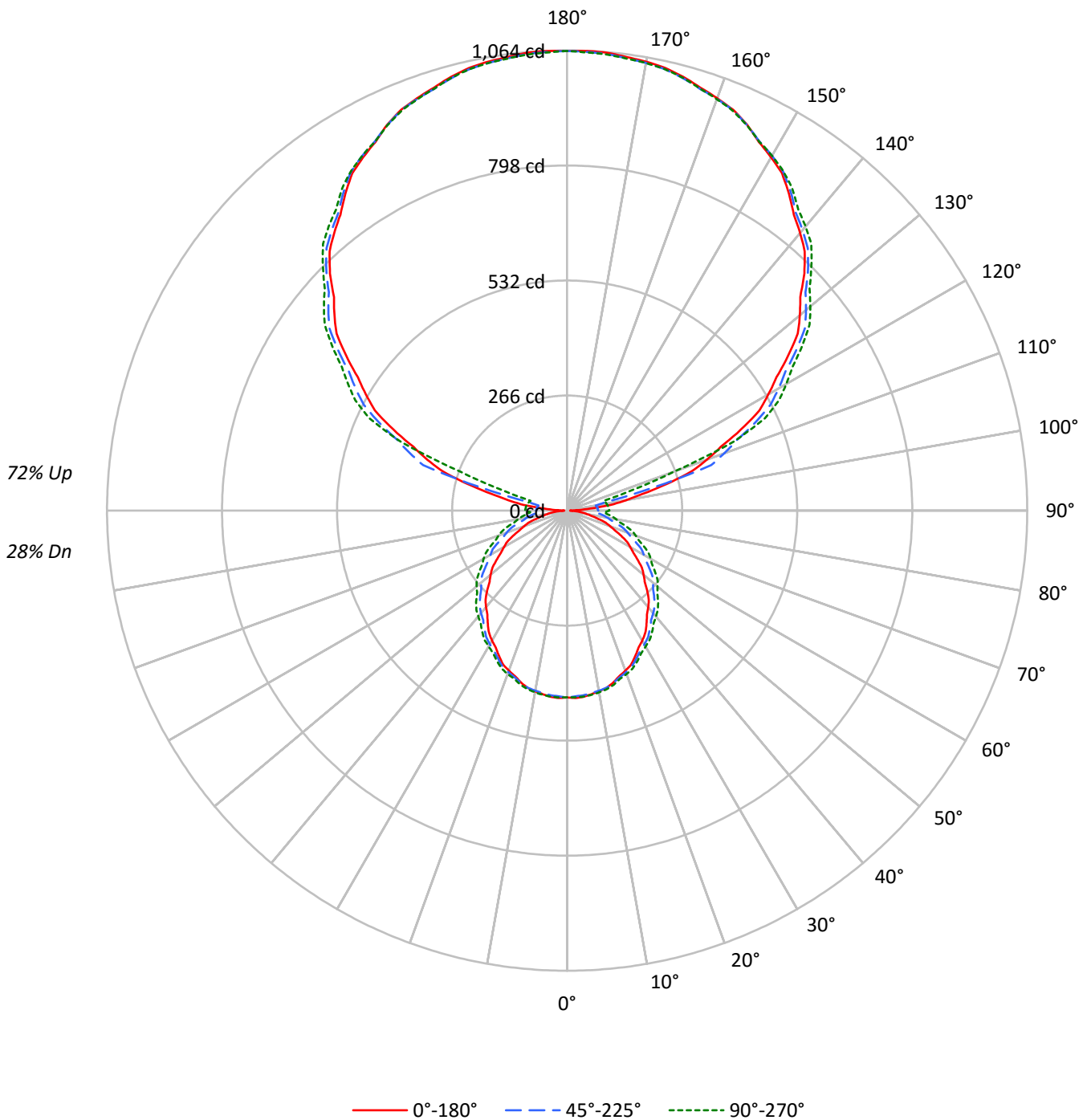
Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28				
1	92	88	84	80	82	79	75	72	61	59	57	46	44	43	31	30	29	23				
2	84	76	70	65	75	68	63	59	53	50	47	40	37	35	27	26	24	18				
3	76	67	60	54	68	60	54	49	47	43	39	35	32	29	24	22	20	15				
4	70	59	51	45	62	53	46	41	41	37	33	31	28	25	21	19	17	13				
5	64	52	44	38	57	47	40	35	37	32	28	28	24	21	19	17	15	11				
6	59	47	39	33	52	42	35	30	33	28	24	25	21	19	17	15	13	10				
7	54	42	34	29	48	38	31	26	30	25	21	22	19	16	16	13	12	9				
8	50	38	30	25	45	34	28	23	27	22	19	20	17	14	14	12	10	8				
9	46	34	27	22	41	31	25	20	25	20	17	19	15	13	13	11	9	7				
10	43	31	24	20	39	28	22	18	23	18	15	17	14	12	12	10	8	6				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4649	4649	4649
5°	4664	4533	4534
10°	4622	4428	4406
15°	4562	4309	4265
20°	4477	4174	4110
25°	4372	4019	3947
30°	4265	3879	3780
35°	4143	3731	3649
40°	4030	3595	3508
45°	3902	3466	3395
50°	3776	3338	3272
55°	3636	3207	3158
60°	3499	3074	3045
65°	3360	2931	2907
70°	3149	2772	2766
75°	2886	2590	2626
80°	2583	2410	2462
85°	2294	2286	2367



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.9	0.9
10°-20°	116.7	2.5
20°-30°	174.6	3.7
30°-40°	208.5	4.4
40°-50°	218.1	4.6
50°-60°	204.7	4.4
60°-70°	171.0	3.6
70°-80°	122.3	2.6
80°-90°	75.9	1.6
90°-100°	84.4	1.8
100°-110°	217.8	4.6
110°-120°	464.8	9.9
120°-130°	576.1	12.3
130°-140°	607.5	12.9
140°-150°	564.0	12.0
150°-160°	453.9	9.7
160°-170°	293.0	6.2
170°-180°	101.0	2.2
0°-30°	332.3	7.1
0°-40°	540.8	11.5
0°-60°	963.6	20.5
0°-90°	1332.8	28.4
90°-120°	766.9	16.3
90°-150°	2514.5	53.6
90°-180°	3362.0	71.6
0°-180°	4695.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	432	432	432	432	432	
5°	432	431	429	432	432	41
15°	412	413	413	417	417	116
25°	372	376	378	384	384	171
35°	320	327	334	340	342	200
45°	262	273	285	293	297	202
55°	200	215	232	244	248	179
65°	138	156	177	191	196	136
75°	75	97	120	135	142	80
85°	23	47	72	87	92	24
90°	7	38	72	91	98	6
95°	53	42	71	90	96	64
105°	239	255	208	89	88	253
115°	444	455	478	497	504	438
125°	624	630	647	658	663	557
135°	776	780	788	798	799	597
145°	894	899	901	906	908	559
155°	984	983	984	987	983	453
165°	1038	1036	1035	1041	1036	293
175°	1063	1059	1060	1064	1059	101
180°	1063	1063	1063	1063	1063	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9
2.5°	433.8	433.6	433.3	433.1	432.8	432.4	431.7	431.0	430.4	429.7	430.4
5°	432.4	432.2	432.0	431.8	431.6	431.2	430.5	429.9	429.3	428.7	429.5
7.5°	428.2	428.3	428.3	428.3	428.4	428.1	427.5	426.9	426.3	425.7	426.7
10°	424.4	424.6	424.9	425.1	425.3	425.2	424.5	424.0	423.5	423.0	424.0
12.5°	419.9	420.2	420.5	420.8	421.1	421.0	420.7	420.3	420.0	419.6	420.6
15°	411.7	412.0	412.3	412.6	412.9	413.1	412.9	412.8	412.7	412.6	413.7
17.5°	401.4	402.0	402.6	403.2	403.8	404.1	404.1	404.0	404.0	404.0	405.0
20°	393.8	394.5	395.1	395.8	396.4	396.8	397.0	397.2	397.4	397.6	398.6
22.5°	386.0	386.6	387.2	387.8	388.5	388.9	389.2	389.5	389.8	390.1	391.3
25°	371.7	372.7	373.9	374.9	375.9	376.6	376.9	377.2	377.5	377.9	379.2
27.5°	357.4	358.6	359.8	361.0	362.2	363.1	363.8	364.5	365.2	365.8	367.0
30°	347.3	348.6	350.0	351.3	352.7	353.8	354.7	355.5	356.3	357.2	358.4
32.5°	336.0	337.5	339.0	340.5	342.0	343.4	344.5	345.6	346.7	347.7	349.1
35°	319.9	321.6	323.4	325.0	326.7	328.2	329.5	330.9	332.2	333.7	335.2
37.5°	303.1	304.9	306.8	308.7	310.5	312.4	314.0	315.7	317.4	319.0	320.8
40°	291.8	293.7	295.5	297.4	299.2	301.2	303.4	305.5	307.5	309.6	311.4
42.5°	279.3	281.7	283.9	286.2	288.5	290.7	293.0	295.1	297.3	299.4	301.4
45°	261.7	264.2	266.6	269.1	271.7	274.2	276.8	279.4	282.1	284.7	286.7
47.5°	243.1	245.9	248.7	251.7	254.5	257.4	260.3	263.4	266.3	269.3	271.6
50°	231.1	234.0	236.9	239.8	242.8	245.8	249.0	252.4	255.6	258.8	261.3
52.5°	218.2	221.4	224.4	227.5	230.7	234.0	237.5	241.2	244.7	248.2	250.7
55°	199.5	203.0	206.4	209.8	213.3	216.9	220.7	224.5	228.2	232.0	234.8
57.5°	181.3	184.8	188.4	192.1	195.6	199.5	203.6	207.7	211.9	216.0	218.8
60°	168.4	172.2	176.0	179.8	183.5	187.5	191.9	196.1	200.4	204.7	207.6
62.5°	156.4	160.3	164.1	167.9	171.8	176.0	180.6	185.1	189.7	194.2	197.0
65°	137.8	142.0	146.0	150.1	154.2	158.5	163.1	167.7	172.3	176.9	180.1
67.5°	119.1	123.4	127.7	132.0	136.3	140.9	145.5	150.3	154.9	159.7	163.0
70°	105.8	110.4	114.8	119.4	123.8	128.7	133.6	138.7	143.7	148.7	152.1
72.5°	93.8	98.4	102.8	107.3	111.8	116.6	121.8	127.0	132.2	137.4	140.9
75°	74.8	79.8	84.6	89.6	94.5	99.6	104.8	110.0	115.2	120.5	123.9
77.5°	58.3	63.2	68.2	73.1	78.1	83.2	88.5	93.7	99.0	104.3	108.0
80°	46.6	51.7	56.9	62.0	67.1	72.4	77.8	83.2	88.7	94.1	97.7
82.5°	36.5	41.6	46.9	52.0	57.3	62.6	68.2	73.6	79.2	84.7	88.3
85°	23.0	28.3	33.5	38.8	43.9	49.4	54.9	60.4	65.9	71.5	75.0
87.5°	12.7	18.3	23.8	29.4	34.9	40.6	46.4	52.1	58.0	63.7	67.5
90°	6.9	13.8	20.7	27.6	34.4	41.7	49.3	56.9	64.5	72.1	76.3
92.5°	20.4	24.5	28.7	32.8	37.0	42.5	49.5	56.5	63.4	70.4	74.9
95°	53.3	50.2	47.1	44.0	40.9	42.8	49.9	57.0	64.0	71.1	75.5
97.5°	101.4	101.9	102.3	102.8	103.2	99.6	91.8	84.1	76.3	68.6	73.1
100°	137.6	144.5	151.4	158.2	165.1	157.2	134.7	112.1	89.6	67.0	71.4
102.5°	178.9	184.5	190.1	195.6	201.2	191.3	166.1	141.0	115.8	90.6	89.3
105°	239.0	243.5	247.9	252.4	256.8	253.4	242.1	230.8	219.4	208.2	180.1
107.5°	301.9	305.6	309.3	313.0	316.7	321.8	328.6	335.4	342.1	348.9	328.9
110°	343.9	347.2	350.4	353.8	357.0	361.7	367.9	374.0	380.1	386.2	383.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	384.4	387.1	389.9	392.7	395.6	399.9	405.9	411.8	417.8	423.7	426.5
115°	443.7	446.0	448.3	450.6	452.9	456.8	462.1	467.5	472.8	478.1	482.4
117.5°	501.5	503.6	505.6	507.8	509.9	513.0	517.4	521.7	526.0	530.4	534.3
120°	537.1	539.3	541.4	543.5	545.5	548.7	552.6	556.5	560.6	564.5	568.4
122.5°	573.8	575.4	576.9	578.6	580.1	582.8	586.8	590.8	594.7	598.6	602.0
125°	623.6	624.9	626.3	627.7	629.1	631.8	635.5	639.2	642.9	646.6	649.2
127.5°	672.2	673.5	674.8	676.1	677.4	679.7	683.1	686.4	689.7	693.1	695.7
130°	702.5	703.8	705.1	706.4	707.7	709.7	712.6	715.3	718.1	720.9	723.6
132.5°	731.1	732.6	734.0	735.3	736.7	738.5	740.7	743.0	745.2	747.4	750.0
135°	775.5	776.4	777.4	778.3	779.2	780.6	782.4	784.4	786.2	788.0	790.4
137.5°	813.2	814.5	815.8	817.0	818.3	819.4	820.4	821.4	822.5	823.5	826.1
140°	838.1	839.2	840.2	841.3	842.3	843.3	844.1	845.0	845.9	846.7	848.9
142.5°	861.5	862.5	863.4	864.4	865.4	866.2	866.8	867.4	868.0	868.5	870.5
145°	894.2	895.3	896.5	897.6	898.7	899.4	899.8	900.1	900.5	900.8	902.0
147.5°	924.5	925.3	926.1	927.0	927.8	928.4	928.7	929.0	929.4	929.7	930.3
150°	943.4	944.0	944.5	945.0	945.5	946.0	946.3	946.7	947.1	947.5	947.8
152.5°	960.5	960.8	961.0	961.3	961.5	961.7	961.9	962.1	962.4	962.6	963.2
155°	984.5	984.2	983.8	983.5	983.1	983.0	983.2	983.4	983.5	983.7	984.6
157.5°	1003.1	1003.1	1003.1	1003.0	1003.0	1002.9	1002.7	1002.6	1002.4	1002.2	1003.3
160°	1014.5	1014.3	1014.2	1014.0	1013.8	1013.6	1013.5	1013.3	1013.1	1012.9	1014.0
162.5°	1025.2	1024.8	1024.3	1023.9	1023.4	1023.1	1022.9	1022.8	1022.6	1022.4	1023.6
165°	1038.2	1037.6	1037.1	1036.6	1036.1	1035.7	1035.6	1035.4	1035.2	1035.0	1036.4
167.5°	1048.3	1047.6	1046.9	1046.2	1045.5	1045.1	1045.1	1045.1	1045.1	1045.1	1046.5
170°	1054.0	1053.3	1052.6	1051.9	1051.2	1050.9	1050.9	1050.9	1050.9	1050.9	1052.3
172.5°	1057.7	1056.9	1056.1	1055.2	1054.4	1054.1	1054.2	1054.3	1054.5	1054.6	1056.0
175°	1062.7	1061.8	1061.0	1060.1	1059.1	1058.8	1058.9	1059.1	1059.3	1059.6	1060.8
177.5°	1063.9	1063.3	1062.6	1061.9	1061.2	1060.9	1061.0	1061.2	1061.3	1061.4	1062.6
180°	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9
2.5°	431.0	431.7	432.4	432.6	432.6	432.5	432.4	432.3
5°	430.3	431.2	432.0	432.4	432.3	432.1	432.0	431.9
7.5°	427.8	428.8	429.8	430.3	430.2	430.0	429.9	429.8
10°	425.2	426.2	427.2	427.6	427.4	427.2	427.0	426.8
12.5°	421.5	422.5	423.4	423.8	423.6	423.4	423.2	423.0
15°	414.8	415.8	416.9	417.3	417.2	417.1	417.0	416.9
17.5°	405.9	406.9	407.8	408.2	408.0	407.9	407.8	407.6
20°	399.5	400.4	401.4	401.9	402.0	402.1	402.2	402.3
22.5°	392.4	393.6	394.9	395.5	395.4	395.3	395.3	395.2
25°	380.5	381.9	383.2	384.0	384.0	384.0	384.0	384.0
27.5°	368.1	369.3	370.5	371.1	371.2	371.3	371.3	371.4
30°	359.6	360.9	362.1	362.7	362.7	362.7	362.7	362.7
32.5°	350.4	351.7	353.0	353.9	354.2	354.4	354.7	354.9
35°	336.8	338.3	339.9	340.9	341.3	341.7	342.1	342.5
37.5°	322.6	324.4	326.2	327.2	327.5	327.9	328.2	328.5
40°	313.2	315.0	316.7	317.8	318.2	318.7	319.1	319.5
42.5°	303.4	305.3	307.2	308.5	309.1	309.6	310.2	310.8
45°	288.6	290.6	292.7	294.1	294.9	295.7	296.6	297.4
47.5°	273.8	276.1	278.3	279.7	280.3	281.0	281.7	282.4
50°	263.6	266.0	268.4	270.0	270.7	271.5	272.2	273.0
52.5°	253.3	255.7	258.2	259.9	260.8	261.8	262.6	263.5
55°	237.6	240.4	243.3	245.1	245.9	246.8	247.6	248.4
57.5°	221.7	224.5	227.3	229.2	230.2	231.3	232.3	233.2
60°	210.6	213.5	216.4	218.4	219.5	220.8	221.9	223.1
62.5°	200.0	202.9	205.8	207.8	208.9	210.0	211.1	212.2
65°	183.2	186.3	189.5	191.6	192.6	193.7	194.7	195.7
67.5°	166.4	169.9	173.3	175.5	176.3	177.2	178.1	178.9
70°	155.4	158.8	162.1	164.3	165.3	166.3	167.4	168.4
72.5°	144.2	147.6	151.1	153.4	154.4	155.4	156.5	157.5
75°	127.3	130.8	134.3	136.6	137.8	139.2	140.4	141.7
77.5°	111.6	115.2	118.9	121.1	122.1	123.1	124.0	125.0
80°	101.2	104.8	108.4	110.6	111.7	112.7	113.8	114.8
82.5°	91.8	95.3	99.0	101.2	102.3	103.3	104.3	105.4
85°	78.7	82.2	85.7	88.1	89.1	90.2	91.2	92.2
87.5°	71.1	74.8	78.6	80.9	82.0	83.1	84.2	85.4
90°	80.6	84.9	89.2	92.0	93.4	94.7	96.1	97.6
92.5°	79.6	84.1	88.8	91.6	92.8	94.0	95.1	96.3
95°	80.0	84.4	89.0	91.7	92.7	93.8	94.8	95.8
97.5°	77.7	82.2	86.6	89.6	90.8	92.0	93.2	94.4
100°	75.8	80.3	84.7	87.6	88.8	90.0	91.2	92.4
102.5°	87.9	86.4	85.0	85.0	86.3	87.8	89.1	90.5
105°	152.0	123.8	95.7	82.3	83.5	84.8	86.1	87.5
107.5°	308.9	289.0	269.0	247.8	225.3	202.8	180.4	157.8
110°	380.0	377.0	373.9	360.2	336.0	311.7	287.5	263.3



TEST NUMBER: P331886-840

CATALOG NUMBER: S123DIP-S340D805U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	429.2	431.9	434.6	433.8	429.5	425.1	420.7	416.4
115°	486.7	490.9	495.1	498.1	499.6	501.2	502.7	504.2
117.5°	538.2	542.1	545.9	548.4	549.4	550.3	551.3	552.2
120°	572.2	575.9	579.8	582.0	582.8	583.5	584.2	584.9
122.5°	605.2	608.5	611.9	613.9	614.8	615.7	616.5	617.4
125°	651.8	654.3	656.8	658.6	659.7	660.9	661.9	663.0
127.5°	698.3	701.0	703.7	705.1	705.5	705.9	706.2	706.6
130°	726.3	729.0	731.6	733.2	733.5	733.7	734.0	734.3
132.5°	752.7	755.3	757.9	759.3	759.5	759.7	759.9	760.1
135°	792.8	795.3	797.7	798.9	798.9	798.9	798.9	798.9
137.5°	828.5	831.0	833.5	834.9	835.1	835.2	835.4	835.6
140°	851.2	853.4	855.8	857.0	857.2	857.3	857.5	857.7
142.5°	872.4	874.4	876.4	877.4	877.4	877.5	877.5	877.5
145°	903.2	904.4	905.5	906.4	906.8	907.3	907.7	908.1
147.5°	930.9	931.5	932.1	932.2	931.8	931.4	930.9	930.5
150°	948.1	948.5	948.8	948.9	948.5	948.2	947.9	947.6
152.5°	963.8	964.4	965.1	965.0	964.2	963.5	962.7	962.0
155°	985.5	986.3	987.2	987.1	986.1	985.0	984.0	982.9
157.5°	1004.3	1005.3	1006.4	1006.2	1004.9	1003.5	1002.2	1000.8
160°	1015.0	1016.1	1017.1	1017.0	1015.8	1014.6	1013.4	1012.2
162.5°	1024.8	1026.0	1027.1	1027.2	1026.1	1025.0	1024.0	1022.9
165°	1037.8	1039.3	1040.7	1040.8	1039.6	1038.2	1037.0	1035.8
167.5°	1047.9	1049.4	1050.8	1050.8	1049.4	1047.9	1046.5	1045.1
170°	1053.6	1055.0	1056.4	1056.4	1055.0	1053.6	1052.3	1050.9
172.5°	1057.4	1058.8	1060.3	1060.2	1058.6	1057.1	1055.5	1054.0
175°	1062.0	1063.2	1064.4	1064.3	1063.0	1061.6	1060.2	1058.7
177.5°	1063.7	1064.8	1065.9	1065.8	1064.4	1063.0	1061.6	1060.2
180°	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7

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