

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: P331977-940

Luminaire Tested: **S123DIP-S775D805U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331977-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S775D805U940-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5341.9 lumens  
Efficiency: N/A  
Efficacy: 116.4 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: General Diffuse

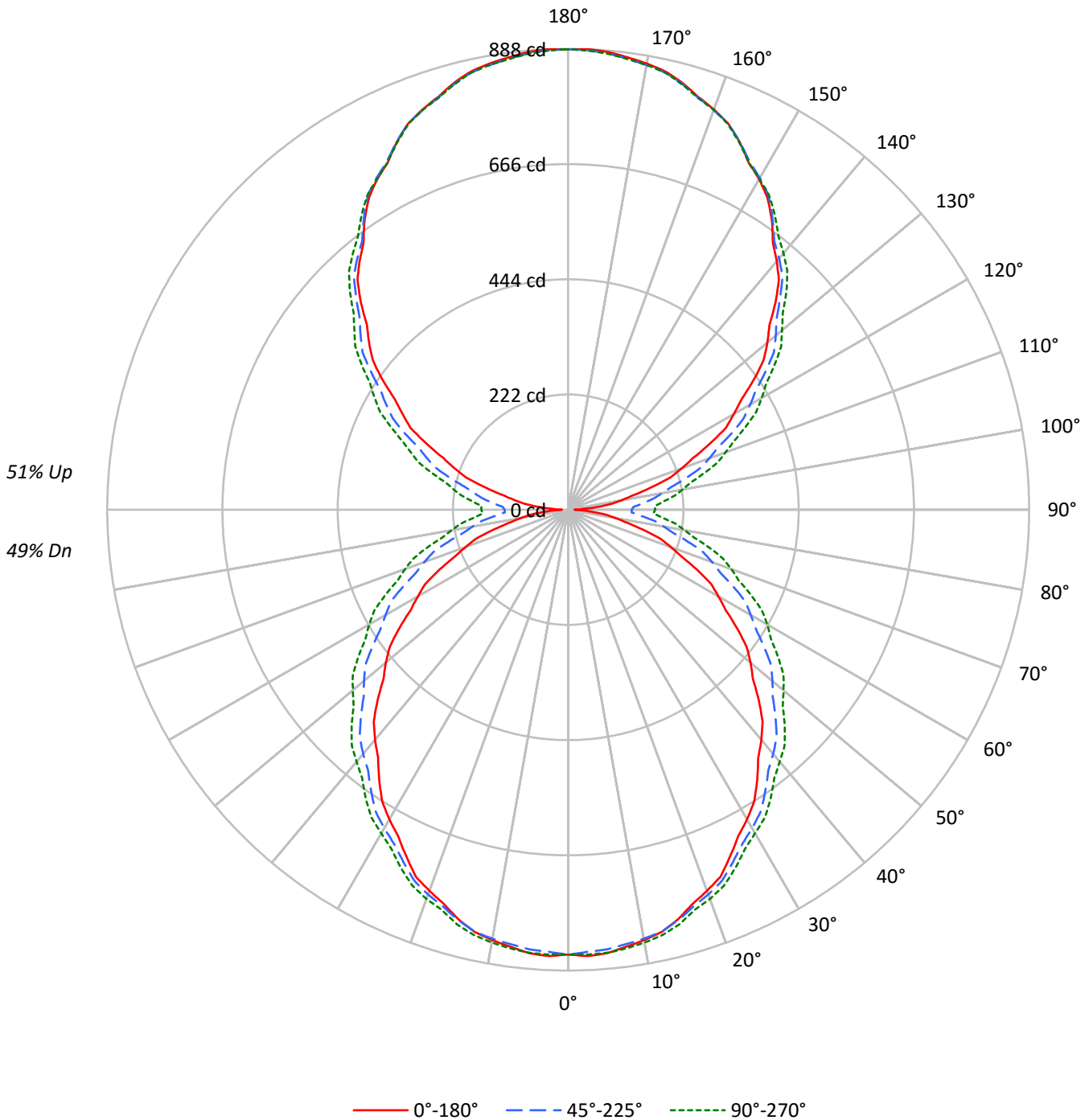
Input Watts (W): 45.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331977-940

CATALOG NUMBER: S123DIP-S775D805U940-4F0-1E-UDD-D1

### 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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	49
1	97	92	88	84	89	85	81	78	71	68	66	59	57	55	47	46	45	39
2	88	80	73	67	80	73	68	63	62	58	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	67	57	49	44	48	42	38	40	36	32	32	29	26	23
5	67	55	46	40	61	50	43	37	43	37	32	36	31	28	29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28	32	28	24	26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25	29	25	21	24	20	18	15
8	52	40	32	27	48	37	30	25	32	26	22	27	22	19	22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	20	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	15	13	11

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

	0°	45°	90°
0°	9226	9226	9226
5°	9255	8994	8999
10°	9172	8787	8743
15°	9054	8552	8462
20°	8884	8283	8155
25°	8676	7974	7832
30°	8462	7695	7504
35°	8223	7401	7242
40°	7995	7134	6961
45°	7742	6877	6737
50°	7490	6622	6490
55°	7215	6363	6268
60°	6946	6099	6041
65°	6670	5818	5769
70°	6254	5502	5492
75°	5730	5140	5210
80°	5128	4782	4885
85°	4559	4540	4699



TEST NUMBER: P331977-940

CATALOG NUMBER: S123DIP-S775D805U940-4F0-1E-UDD-D1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.3	1.5
10°-20°	231.6	4.3
20°-30°	346.4	6.5
30°-40°	413.7	7.7
40°-50°	432.9	8.1
50°-60°	406.2	7.6
60°-70°	339.3	6.4
70°-80°	242.7	4.5
80°-90°	147.4	2.8
90°-100°	148.6	2.8
100°-110°	239.8	4.5
110°-120°	338.9	6.3
120°-130°	412.6	7.7
130°-140°	446.6	8.4
140°-150°	430.2	8.1
150°-160°	360.1	6.7
160°-170°	239.7	4.5
170°-180°	83.9	1.6
0°-30°	659.3	12.3
0°-40°	1073.0	20.1
0°-60°	1912.1	35.8
0°-90°	2641.4	49.4
90°-120°	727.3	13.6
90°-150°	2016.7	37.8
90°-180°	2700.0	50.5
0°-180°	5341.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	857	857	857	857	857	
5°	858	856	851	858	857	81
15°	817	820	819	828	827	230
25°	738	747	750	761	762	340
35°	635	650	662	675	680	397
45°	519	542	565	582	590	400
55°	396	427	460	484	493	354
65°	274	310	351	378	388	270
75°	148	192	239	269	281	159
85°	46	93	142	172	183	48
90°	13	66	122	155	168	11
95°	51	93	144	174	185	54
105°	164	189	234	260	270	176
115°	301	315	346	369	376	298
125°	436	440	464	480	485	389
135°	564	568	577	591	595	435
145°	684	684	686	692	694	427
155°	782	782	782	785	780	360
165°	851	849	849	853	848	240
175°	885	883	883	886	882	84
180°	888	888	888	888	888	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1
2.5°	860.9	860.3	859.9	859.3	858.9	857.9	856.7	855.3	854.0	852.7	854.0
5°	858.1	857.6	857.2	856.8	856.4	855.6	854.3	853.1	851.9	850.6	852.3
7.5°	849.6	849.7	849.8	849.9	850.0	849.4	848.2	847.0	845.8	844.6	846.7
10°	842.2	842.6	843.0	843.5	843.8	843.6	842.5	841.5	840.4	839.4	841.5
12.5°	833.2	833.8	834.4	835.0	835.5	835.5	834.8	834.1	833.4	832.7	834.6
15°	817.0	817.6	818.2	818.9	819.5	819.7	819.5	819.3	819.0	818.9	820.9
17.5°	796.5	797.7	799.0	800.1	801.4	802.0	801.9	801.8	801.7	801.6	803.5
20°	781.5	782.7	784.0	785.2	786.5	787.3	787.7	788.2	788.5	789.0	790.9
22.5°	765.8	767.0	768.3	769.5	770.8	771.7	772.3	772.8	773.5	774.0	776.4
25°	737.6	739.7	741.7	743.9	745.9	747.3	747.9	748.5	749.1	749.8	752.4
27.5°	709.3	711.6	714.0	716.3	718.7	720.5	721.8	723.2	724.5	725.9	728.2
30°	689.0	691.8	694.5	697.1	699.8	702.0	703.6	705.3	707.0	708.6	711.1
32.5°	666.6	669.7	672.7	675.7	678.8	681.4	683.5	685.7	687.9	690.0	692.7
35°	634.9	638.2	641.6	644.9	648.2	651.2	653.9	656.6	659.3	662.0	665.1
37.5°	601.3	605.0	608.8	612.5	616.3	619.7	623.1	626.4	629.7	633.0	636.6
40°	578.9	582.6	586.4	590.1	593.8	597.8	601.9	606.1	610.2	614.4	617.9
42.5°	554.2	558.8	563.4	567.9	572.5	576.9	581.2	585.6	589.9	594.2	598.1
45°	519.2	524.1	529.1	534.0	539.0	544.1	549.3	554.5	559.7	564.9	568.8
47.5°	482.3	488.0	493.7	499.3	504.9	510.7	516.7	522.5	528.5	534.4	538.9
50°	458.4	464.2	470.0	475.9	481.7	487.8	494.3	500.7	507.1	513.5	518.3
52.5°	433.0	439.2	445.3	451.5	457.6	464.2	471.4	478.4	485.5	492.6	497.6
55°	395.9	402.7	409.6	416.4	423.3	430.4	437.9	445.4	452.8	460.3	465.9
57.5°	359.6	366.8	373.9	381.0	388.3	395.8	404.0	412.2	420.4	428.6	434.2
60°	334.3	341.7	349.2	356.7	364.2	372.1	380.7	389.1	397.6	406.2	412.0
62.5°	310.3	318.0	325.7	333.2	340.9	349.2	358.2	367.2	376.2	385.2	391.0
65°	273.6	281.7	289.7	297.8	305.9	314.5	323.7	332.8	342.0	351.1	357.3
67.5°	236.2	244.8	253.4	262.0	270.5	279.6	288.8	298.1	307.4	316.7	323.5
70°	210.1	219.0	227.9	236.8	245.8	255.2	265.2	275.1	285.1	295.1	301.7
72.5°	186.2	195.1	204.0	212.9	221.9	231.5	241.7	252.1	262.3	272.6	279.5
75°	148.5	158.2	168.0	177.7	187.4	197.5	207.9	218.3	228.6	239.1	245.8
77.5°	115.6	125.5	135.3	145.1	154.9	165.1	175.6	186.0	196.4	206.9	214.1
80°	92.5	102.6	112.8	123.0	133.1	143.6	154.4	165.1	175.9	186.7	193.8
82.5°	72.2	82.6	92.9	103.3	113.6	124.2	135.2	146.2	157.1	168.1	175.1
85°	45.7	56.1	66.5	76.9	87.2	97.9	109.0	119.9	130.9	142.0	149.0
87.5°	25.0	35.6	46.3	56.9	67.5	78.4	89.3	100.3	111.3	122.3	129.5
90°	12.8	24.5	36.3	48.0	59.7	71.9	84.4	97.0	109.7	122.3	129.9
92.5°	28.3	38.5	48.7	58.9	69.2	80.1	91.6	103.2	114.8	126.3	133.7
95°	51.4	60.5	69.7	78.9	88.1	98.4	109.8	121.2	132.6	144.0	151.1
97.5°	82.2	90.3	98.4	106.6	114.7	124.0	134.6	145.3	155.9	166.5	173.3
100°	103.3	110.8	118.3	125.9	133.5	142.4	152.8	163.1	173.4	183.7	190.2
102.5°	127.6	134.1	140.6	147.1	153.7	162.2	172.5	183.0	193.4	203.8	210.1
105°	164.3	169.6	175.0	180.2	185.5	193.3	203.6	213.9	224.3	234.5	240.4
107.5°	206.2	210.6	215.0	219.5	223.8	230.6	239.6	248.6	257.6	266.6	272.7
110°	232.2	236.2	240.3	244.3	248.3	254.7	263.3	271.9	280.5	289.1	295.2



TEST NUMBER: P331977-940

CATALOG NUMBER: S123DIP-S775D805U940-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	260.1	263.3	266.6	269.8	273.1	278.7	286.8	294.8	302.8	310.9	316.8
115°	301.0	303.9	306.8	309.9	312.8	317.8	325.0	332.2	339.3	346.5	351.6
117.5°	342.9	344.7	346.6	348.4	350.3	354.5	361.1	367.7	374.3	380.9	385.8
120°	368.4	370.3	372.3	374.3	376.2	380.2	386.3	392.4	398.5	404.6	409.1
122.5°	395.7	396.9	398.1	399.3	400.6	404.2	410.4	416.4	422.6	428.6	432.9
125°	436.4	436.9	437.4	437.8	438.3	441.4	447.1	452.8	458.5	464.2	468.0
127.5°	474.9	475.7	476.5	477.2	478.0	480.8	485.4	490.1	494.7	499.4	502.6
130°	500.6	501.6	502.7	503.6	504.7	507.1	510.8	514.4	518.1	521.8	525.1
132.5°	525.5	526.7	527.9	529.1	530.3	532.4	535.4	538.3	541.3	544.3	547.3
135°	564.5	565.3	566.0	566.7	567.4	568.8	571.0	573.0	575.2	577.3	580.4
137.5°	600.6	601.2	601.8	602.4	603.0	604.1	605.8	607.5	609.2	610.9	613.5
140°	624.9	625.7	626.4	627.2	628.0	628.7	629.5	630.4	631.2	631.9	634.8
142.5°	647.7	648.4	649.0	649.6	650.2	650.7	651.1	651.5	651.9	652.3	655.0
145°	683.5	683.6	683.7	683.8	683.9	684.1	684.7	685.1	685.5	686.0	687.5
147.5°	713.8	714.3	714.9	715.4	716.0	716.5	716.9	717.4	717.8	718.3	718.7
150°	735.5	735.8	736.1	736.5	736.7	737.1	737.4	737.7	738.0	738.3	738.3
152.5°	753.4	753.8	754.2	754.7	755.1	755.5	755.6	755.8	756.0	756.2	756.4
155°	781.5	781.5	781.5	781.5	781.5	781.6	781.8	781.9	782.1	782.2	782.8
157.5°	805.5	805.3	805.1	804.9	804.8	804.8	804.9	805.0	805.1	805.2	805.9
160°	820.6	820.3	819.9	819.7	819.3	819.2	819.2	819.2	819.2	819.2	819.9
162.5°	833.9	833.6	833.1	832.7	832.2	832.1	832.2	832.3	832.4	832.6	833.3
165°	851.2	850.8	850.3	849.9	849.4	849.2	849.2	849.2	849.2	849.2	850.1
167.5°	865.0	864.4	863.8	863.2	862.6	862.4	862.5	862.6	862.7	862.8	863.8
170°	872.9	872.3	871.6	871.0	870.4	870.0	870.0	870.0	870.0	870.0	871.2
172.5°	879.0	878.4	877.8	877.2	876.6	876.2	876.2	876.2	876.2	876.2	877.2
175°	885.4	884.8	884.2	883.6	883.0	882.6	882.6	882.6	882.6	882.6	883.6
177.5°	888.1	887.6	887.1	886.5	886.1	885.8	885.8	885.8	885.8	885.8	886.5
180°	887.5	887.5	887.5	887.5	887.5	887.5	887.5	887.5	887.5	887.5	887.5



TEST NUMBER: P331977-940

CATALOG NUMBER: S123DIP-S775D805U940-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1
2.5°	855.3	856.7	857.9	858.5	858.4	858.2	858.0	857.9
5°	853.9	855.6	857.2	857.9	857.7	857.6	857.4	857.1
7.5°	848.7	850.9	852.9	853.8	853.5	853.4	853.1	852.8
10°	843.6	845.6	847.7	848.6	848.1	847.7	847.3	846.9
12.5°	836.5	838.4	840.3	841.1	840.6	840.3	839.8	839.4
15°	823.0	825.1	827.2	828.0	827.9	827.7	827.4	827.2
17.5°	805.4	807.3	809.1	809.9	809.7	809.3	809.0	808.8
20°	792.7	794.6	796.5	797.5	797.7	797.9	798.1	798.3
22.5°	778.7	781.1	783.5	784.6	784.5	784.3	784.3	784.1
25°	755.2	757.9	760.5	761.9	761.9	761.9	761.9	761.9
27.5°	730.5	732.8	735.1	736.4	736.6	736.7	736.9	737.1
30°	713.6	716.1	718.6	719.9	719.9	719.9	719.9	719.9
32.5°	695.3	697.9	700.6	702.2	702.7	703.2	703.6	704.2
35°	668.2	671.4	674.4	676.5	677.3	678.1	678.9	679.8
37.5°	640.1	643.6	647.1	649.3	649.9	650.6	651.2	651.9
40°	621.4	624.9	628.5	630.6	631.5	632.3	633.1	634.0
42.5°	601.9	605.7	609.7	612.2	613.3	614.5	615.6	616.8
45°	572.7	576.7	580.7	583.4	585.1	586.7	588.4	590.1
47.5°	543.3	547.8	552.2	555.1	556.3	557.7	558.9	560.2
50°	523.1	527.8	532.6	535.7	537.2	538.6	540.1	541.5
52.5°	502.5	507.5	512.4	515.8	517.5	519.3	521.1	522.9
55°	471.5	477.2	482.7	486.3	488.0	489.6	491.3	493.0
57.5°	439.9	445.5	451.1	455.0	456.9	458.9	460.7	462.7
60°	417.8	423.6	429.4	433.5	435.7	438.0	440.3	442.6
62.5°	396.9	402.7	408.5	412.4	414.6	416.7	418.8	420.9
65°	363.6	369.7	375.9	380.1	382.2	384.2	386.4	388.4
67.5°	330.3	337.2	343.9	348.2	349.9	351.7	353.5	355.2
70°	308.4	315.0	321.6	325.9	328.1	330.1	332.2	334.3
72.5°	286.2	293.0	299.9	304.3	306.4	308.4	310.5	312.6
75°	252.7	259.6	266.4	271.1	273.6	276.1	278.6	281.1
77.5°	221.3	228.5	235.8	240.3	242.3	244.2	246.1	248.0
80°	200.8	207.9	215.0	219.5	221.6	223.6	225.8	227.8
82.5°	182.2	189.2	196.3	200.8	203.0	205.0	207.1	209.1
85°	156.0	163.1	170.1	174.7	176.7	178.9	180.9	183.0
87.5°	136.7	143.8	151.1	155.7	157.8	160.0	162.1	164.3
90°	137.6	145.3	152.9	157.9	160.3	162.7	165.1	167.5
92.5°	141.1	148.5	155.9	160.4	162.1	163.8	165.6	167.3
95°	158.1	165.1	172.2	176.8	178.9	180.9	183.0	185.1
97.5°	180.2	187.2	194.0	198.5	200.5	202.5	204.6	206.5
100°	196.7	203.1	209.6	214.1	216.4	218.8	221.2	223.6
102.5°	216.4	222.7	229.1	233.2	235.2	237.2	239.2	241.3
105°	246.2	252.0	257.8	261.8	263.9	266.2	268.3	270.5
107.5°	278.7	284.8	290.9	294.7	296.4	298.0	299.6	301.3
110°	301.1	307.2	313.2	316.8	318.3	319.6	320.9	322.3





TEST NUMBER: P331977-940

CATALOG NUMBER: S123DIP-S775D805U940-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	322.8	328.8	334.7	338.6	340.4	342.1	343.9	345.7
115°	356.8	361.9	367.0	370.3	371.8	373.4	374.9	376.4
117.5°	390.7	395.7	400.6	403.6	404.8	406.0	407.2	408.3
120°	413.8	418.4	423.0	425.9	427.0	428.2	429.3	430.4
122.5°	437.1	441.3	445.5	448.1	449.2	450.1	451.2	452.2
125°	471.7	475.5	479.2	481.4	482.3	483.1	483.9	484.8
127.5°	505.8	509.1	512.3	514.2	515.0	515.7	516.4	517.0
130°	528.4	531.8	535.1	536.8	537.0	537.2	537.3	537.5
132.5°	550.4	553.4	556.4	558.2	558.8	559.4	559.9	560.5
135°	583.5	586.7	589.8	591.7	592.5	593.2	593.9	594.6
137.5°	616.2	618.8	621.4	622.9	623.4	623.8	624.3	624.7
140°	637.8	640.8	643.7	645.2	645.2	645.1	645.1	645.0
142.5°	657.5	660.2	662.8	664.2	664.4	664.7	664.9	665.0
145°	689.0	690.5	692.1	692.9	693.1	693.3	693.6	693.8
147.5°	719.3	719.7	720.2	720.4	720.2	720.1	719.9	719.6
150°	738.3	738.3	738.3	738.1	737.5	737.0	736.6	736.0
152.5°	756.6	756.9	757.2	756.9	756.2	755.5	754.7	754.0
155°	783.5	784.1	784.7	784.4	783.4	782.3	781.2	780.2
157.5°	806.6	807.2	807.8	807.7	806.9	806.0	805.1	804.2
160°	820.7	821.5	822.2	822.3	821.7	821.1	820.5	819.8
162.5°	834.1	834.9	835.7	835.5	834.6	833.6	832.6	831.6
165°	851.0	851.9	852.9	852.8	851.8	850.6	849.5	848.5
167.5°	864.8	865.7	866.7	866.7	865.7	864.8	863.8	862.8
170°	872.3	873.3	874.4	874.4	873.3	872.3	871.2	870.0
172.5°	878.2	879.1	880.0	880.0	878.9	877.8	876.7	875.7
175°	884.5	885.4	886.4	886.3	885.2	884.1	883.0	881.9
177.5°	887.3	888.1	888.8	888.8	887.9	887.0	886.2	885.3
180°	887.5	887.5	887.5	887.5	887.5	887.5	887.5	887.5

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