

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: P331960-940

Luminaire Tested: **S123DIP-S775D365U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331960-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S775D365U940-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4052.7 lumens  
Efficiency: N/A  
Efficacy: 115.8 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-Direct

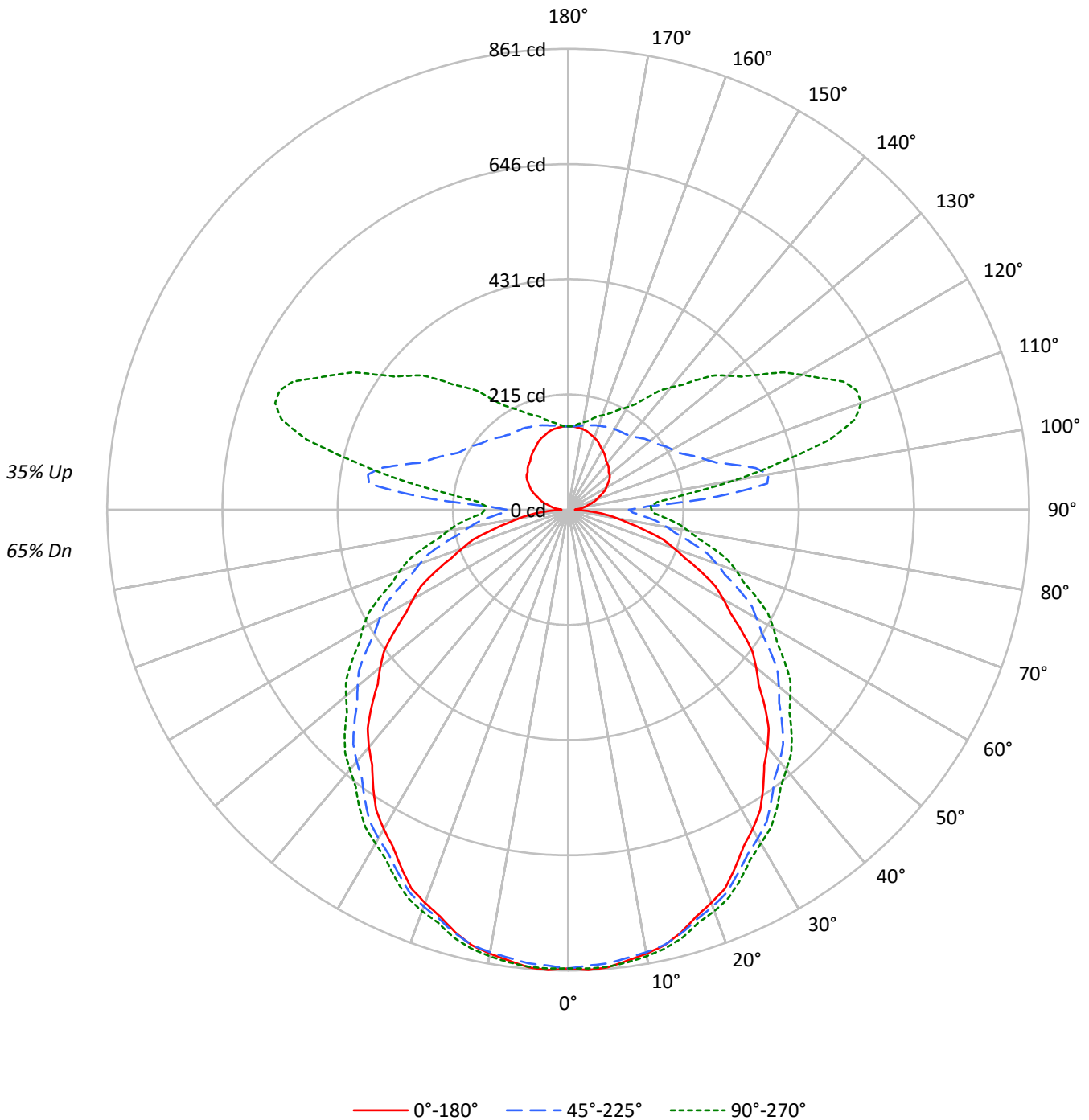
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331960-940

CATALOG NUMBER: S123DIP-S775D365U940-4F0-1E-UDD-D4

### 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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	100	95	90	86	94	89	85	82	78	75	73	69	66	64	60	58	56	52
2	90	82	75	69	84	77	71	66	68	63	59	60	56	53	52	49	46	43
3	82	72	64	57	77	67	60	54	60	54	49	52	48	44	45	42	39	35
4	75	63	55	48	70	60	52	46	53	46	42	46	41	37	40	36	33	30
5	69	56	48	41	64	53	45	39	47	41	36	41	36	32	36	32	29	26
6	63	50	42	36	59	48	40	34	42	36	31	37	32	28	33	29	25	22
7	59	46	37	31	55	43	35	30	38	32	27	34	29	25	30	26	22	20
8	54	41	33	28	51	39	32	26	35	29	24	31	26	22	27	23	20	18
9	51	38	30	25	47	36	29	24	32	26	22	29	24	20	25	21	18	16
10	47	35	27	22	44	33	26	21	30	24	20	27	21	18	24	19	16	14

**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: P331960-940

CATALOG NUMBER: S123DIP-S775D365U940-4F0-1E-UDD-D4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.3	2.0
10°-20°	231.6	5.7
20°-30°	346.4	8.5
30°-40°	413.7	10.2
40°-50°	432.9	10.7
50°-60°	406.2	10.0
60°-70°	339.3	8.4
70°-80°	242.7	6.0
80°-90°	146.0	3.6
90°-100°	177.4	4.4
100°-110°	312.0	7.7
110°-120°	285.9	7.1
120°-130°	217.9	5.4
130°-140°	163.2	4.0
140°-150°	115.7	2.9
150°-160°	79.0	1.9
160°-170°	46.4	1.1
170°-180°	15.1	0.4
0°-30°	659.3	16.3
0°-40°	1073.0	26.5
0°-60°	1912.1	47.2
0°-90°	2640.0	65.1
90°-120°	775.4	19.1
90°-150°	1272.2	31.4
90°-180°	1413.0	34.9
0°-180°	4052.7	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	62	113	145	156	9
95°	21	82	279	175	167	20
105°	44	85	323	538	505	46
115°	69	98	243	496	567	69
125°	93	110	211	376	440	82
135°	107	127	190	297	344	83
145°	121	138	176	229	255	76
155°	136	147	170	194	202	63
165°	149	153	163	173	176	42
175°	155	156	157	159	158	15
180°	156	156	156	156	156	



TEST NUMBER: P331960-940

CATALOG NUMBER: S123DIP-S775D365U940-4F0-1E-UDD-D4

**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	35.4	45.9	56.4	66.9	77.4	88.2	99.0	109.8	120.6	127.5
90°	12.8	23.5	34.3	45.5	56.3	67.2	78.8	90.3	101.8	113.4	120.1
92.5°	15.3	26.4	38.2	49.8	61.6	76.1	94.8	118.7	142.4	148.0	142.9
95°	21.0	30.1	41.6	55.0	71.3	92.7	129.7	186.8	248.6	279.3	250.5
97.5°	27.5	35.0	45.0	57.1	72.4	94.2	129.5	192.2	288.0	375.3	401.7
100°	31.7	38.7	47.5	58.6	72.8	93.2	124.8	180.9	273.4	379.6	447.7
102.5°	36.3	42.8	50.7	60.9	73.7	92.6	121.8	170.8	254.0	358.7	445.6
105°	44.1	49.9	56.8	65.5	76.5	93.3	119.2	160.6	229.1	323.3	419.6
107.5°	51.4	56.5	62.6	70.5	80.3	95.8	119.2	154.6	211.2	291.5	379.2
110°	56.6	61.3	66.6	73.8	82.9	97.7	120.3	152.5	203.0	273.4	354.1



TEST NUMBER: P331960-940

CATALOG NUMBER: S123DIP-S775D365U940-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	62.2	66.3	70.9	77.4	85.8	99.9	121.1	151.2	196.4	259.3	331.1
115°	69.3	73.0	77.4	83.0	90.9	104.3	123.9	150.5	190.1	243.3	302.7
117.5°	77.0	80.1	83.2	87.7	95.1	107.3	126.2	150.3	184.6	230.7	282.8
120°	81.9	83.9	86.5	90.7	97.7	109.5	127.7	151.0	182.1	224.2	271.8
122.5°	86.7	88.2	90.2	94.3	100.5	112.4	130.0	151.7	180.4	218.6	262.1
125°	92.6	93.3	95.1	98.6	104.6	116.1	133.1	153.0	178.0	210.7	248.8
127.5°	97.8	98.5	100.7	104.1	110.4	121.4	137.0	154.4	176.4	204.0	236.4
130°	101.1	101.8	104.5	108.1	114.5	124.9	139.5	155.6	175.5	199.6	229.0
132.5°	102.9	104.1	107.1	111.6	118.2	128.0	141.5	156.6	174.2	195.6	221.9
135°	107.1	108.2	111.5	115.9	122.3	131.9	143.9	156.9	171.8	189.6	211.9
137.5°	111.1	112.3	115.5	120.4	126.7	135.2	145.9	157.4	169.9	184.4	203.2
140°	113.2	114.7	117.9	122.9	129.2	137.4	147.1	157.2	168.5	181.1	197.8
142.5°	116.1	117.3	120.6	124.9	131.1	138.4	147.4	156.8	166.8	177.6	192.4
145°	121.0	121.7	124.4	128.9	134.0	141.2	149.4	157.8	166.7	176.1	187.9
147.5°	125.0	125.6	128.3	132.4	137.6	143.7	151.2	158.9	166.7	175.0	184.0
150°	128.2	128.6	131.1	135.2	139.6	145.3	152.5	159.2	166.7	174.0	181.8
152.5°	131.5	131.6	134.1	137.7	141.6	147.0	153.3	159.6	165.9	172.7	179.8
155°	136.4	136.4	138.3	141.5	145.0	149.4	154.7	159.8	165.1	170.5	176.7
157.5°	140.4	140.6	142.1	144.9	147.8	151.2	155.5	160.1	164.1	168.5	173.3
160°	143.4	143.4	144.6	147.1	149.4	152.5	156.3	160.1	163.5	167.0	171.1
162.5°	145.6	145.6	146.7	148.6	150.6	153.3	156.6	159.8	162.6	165.5	168.8
165°	149.0	148.7	149.4	151.0	152.2	154.4	156.9	159.2	161.0	163.3	165.8
167.5°	151.6	151.2	151.6	152.8	153.6	155.1	156.9	158.6	159.5	161.0	162.8
170°	153.1	152.5	152.8	153.7	154.4	155.1	156.6	157.8	158.5	159.4	161.0
172.5°	154.2	153.7	153.8	154.5	154.9	155.2	156.6	157.7	157.7	158.2	159.3
175°	155.3	155.1	154.7	155.3	155.3	155.7	156.3	156.9	156.6	156.6	157.2
177.5°	156.0	155.7	155.4	155.7	155.7	155.7	156.0	156.4	156.0	155.7	156.0
180°	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7



TEST NUMBER: P331960-940

CATALOG NUMBER: S123DIP-S775D365U940-4F0-1E-UDD-D4

**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°	134.6	141.8	148.9	153.6	155.6	157.7	159.9	161.8
90°	127.5	134.8	142.2	147.4	149.2	151.6	154.0	155.7
92.5°	139.8	141.2	145.7	148.5	149.8	150.7	152.9	154.3
95°	218.7	188.6	178.3	171.3	167.4	166.6	166.5	167.3
97.5°	380.8	330.7	296.3	262.7	241.6	229.4	223.0	222.4
100°	464.8	445.3	414.5	373.7	343.9	323.1	312.8	315.2
102.5°	489.5	494.5	478.8	454.4	431.8	415.6	407.4	402.3
105°	491.3	528.6	540.4	536.1	523.4	513.4	505.1	505.4
107.5°	459.4	516.1	549.3	564.3	566.3	564.1	562.5	561.4
110°	431.7	495.1	540.1	565.7	576.2	580.4	581.4	582.5





TEST NUMBER: P331960-940

CATALOG NUMBER: S123DIP-S775D365U940-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	403.4	467.9	517.6	549.5	567.5	577.1	581.3	583.3
115°	366.0	425.9	477.2	514.8	540.1	555.6	563.7	566.9
117.5°	336.9	389.2	435.7	473.9	500.2	517.6	528.3	532.1
120°	321.0	368.4	410.9	445.9	472.2	491.3	500.3	503.6
122.5°	307.6	350.7	390.4	422.9	446.6	463.9	473.7	477.5
125°	289.1	327.8	362.4	390.6	412.1	427.5	436.8	440.4
127.5°	272.2	306.9	338.3	364.0	383.3	396.6	405.2	408.6
130°	261.3	293.6	323.1	347.1	365.1	377.6	385.5	389.2
132.5°	250.9	280.8	308.4	331.4	348.5	361.2	368.5	371.7
135°	236.7	262.9	287.0	307.4	323.9	334.4	341.1	344.3
137.5°	223.6	245.2	266.1	283.8	297.8	308.5	314.3	316.8
140°	215.7	234.9	253.2	268.8	281.8	291.7	297.7	298.5
142.5°	207.8	224.4	240.2	254.0	265.2	274.0	279.6	280.4
145°	199.7	211.7	223.5	233.8	242.5	249.9	253.3	254.8
147.5°	193.1	201.9	210.4	217.6	224.4	229.5	232.6	233.7
150°	189.0	196.4	203.0	209.1	214.3	218.1	220.4	220.9
152.5°	186.3	192.5	198.4	203.4	207.2	210.5	211.7	211.8
155°	182.2	187.2	191.9	195.6	198.5	201.1	201.7	202.0
157.5°	177.7	181.9	185.6	188.6	191.0	192.9	193.4	193.3
160°	175.2	178.7	181.8	184.0	186.2	188.2	188.2	187.8
162.5°	172.2	175.1	178.1	180.0	181.5	183.1	183.1	182.8
165°	168.3	170.1	172.4	174.0	175.2	176.5	176.1	176.1
167.5°	164.9	166.3	167.6	168.7	169.2	170.1	169.9	169.9
170°	162.6	163.5	164.8	165.4	165.8	166.4	166.0	166.0
172.5°	160.6	161.3	162.3	162.6	162.7	163.4	162.8	162.6
175°	157.8	158.2	158.8	158.8	158.8	159.2	158.8	158.5
177.5°	156.1	156.4	156.7	156.7	156.4	156.7	156.1	156.1
180°	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7

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