

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: P332778

Luminaire Tested: **S124DIW-S795D470U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332778  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIW-S795D470U835-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4865.3 lumens  
Efficiency: N/A  
Efficacy: 129.1 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

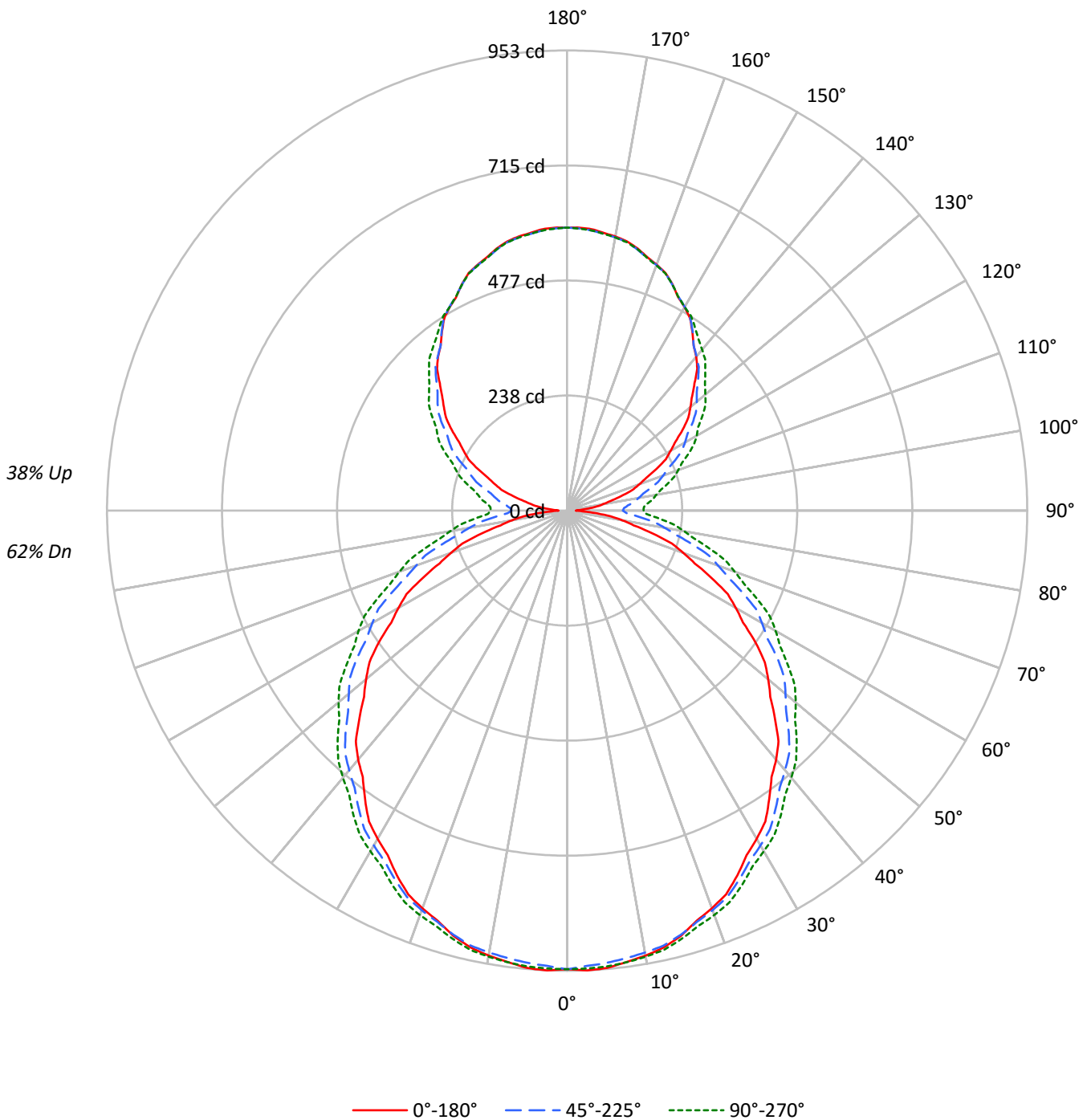
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332778

CATALOG NUMBER: S124DIW-S795D470U835-4F0-1E-UDD-D1

### Luminous Intensity Polar Plot





TEST NUMBER: P332778

CATALOG NUMBER: S124DIW-S795D470U835-4F0-1E-UDD-D1

**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	50	30	10	0		
RCR																										
0	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62					62			
1	99	94	90	86	92	88	84	81	77	74	71	67	64	62	57	55	54	49					49			
2	90	82	75	69	84	76	70	65	67	62	58	58	54	51	49	47	44	40					40			
3	82	71	63	57	76	67	60	54	58	53	48	51	46	43	43	40	37	33					33			
4	74	63	54	48	69	59	51	45	52	46	41	45	40	36	39	35	32	28					28			
5	68	56	47	41	63	52	45	39	46	40	35	40	35	31	35	31	27	24					24			
6	63	50	41	35	58	47	39	34	41	35	30	36	31	27	31	27	24	21					21			
7	58	45	37	31	54	42	35	29	38	31	27	33	28	24	28	24	21	19					19			
8	54	41	33	27	50	39	31	26	34	28	24	30	25	21	26	22	19	17					17			
9	50	37	30	24	47	35	28	23	31	25	21	28	23	19	24	20	17	15					15			
10	47	34	27	22	44	32	25	21	29	23	19	26	21	17	22	18	15	13					13			

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

	0°	45°	90°
0°	7668	7668	7668
5°	7692	7494	7516
10°	7645	7371	7366
15°	7577	7230	7190
20°	7473	7073	7019
25°	7357	6898	6831
30°	7231	6723	6637
35°	7088	6544	6468
40°	6974	6374	6291
45°	6804	6217	6140
50°	6661	6036	5980
55°	6513	5866	5792
60°	6282	5649	5621
65°	6029	5415	5409
70°	5722	5149	5165
75°	5296	4857	4943
80°	4819	4575	4724
85°	4219	4325	4598



TEST NUMBER: P332778

CATALOG NUMBER: S124DIW-S795D470U835-4F0-1E-UDD-D1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.9	1.8
10°-20°	257.7	5.3
20°-30°	389.7	8.0
30°-40°	471.5	9.7
40°-50°	498.5	10.2
50°-60°	469.1	9.6
60°-70°	389.2	8.0
70°-80°	273.4	5.6
80°-90°	156.3	3.2
90°-100°	130.4	2.7
100°-110°	182.4	3.7
110°-120°	239.9	4.9
120°-130°	281.9	5.8
130°-140°	298.9	6.1
140°-150°	285.0	5.9
150°-160°	237.8	4.9
160°-170°	158.2	3.3
170°-180°	55.4	1.1
0°-30°	737.4	15.2
0°-40°	1208.8	24.8
0°-60°	2176.4	44.7
0°-90°	2995.3	61.6
90°-120°	552.7	11.4
90°-150°	1418.5	29.2
90°-180°	1870.0	38.4
0°-180°	4865.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	950	950	950	950	950	
5°	951	948	940	948	948	90
15°	912	912	909	918	918	257
25°	834	840	844	855	856	384
35°	730	742	753	767	771	457
45°	608	629	649	666	672	470
55°	476	499	531	551	558	424
65°	330	364	400	426	435	327
75°	183	223	267	296	306	195
85°	56	101	149	180	192	60
90°	18	66	115	148	158	13
95°	41	81	127	156	167	41
105°	115	138	178	205	216	123
115°	204	215	247	269	277	202
125°	292	292	317	336	342	260
135°	373	376	383	399	404	289
145°	452	453	453	459	462	283
155°	517	517	516	518	516	238
165°	562	561	560	563	561	158
175°	585	583	582	585	582	56
180°	586	586	586	586	586	



TEST NUMBER: P332778

CATALOG NUMBER: S124DIW-S795D470U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	949.9	949.9	949.9	949.9	949.9	949.9	949.9	949.9	949.9	949.9	949.9
2.5°	953.3	952.7	952.1	951.6	951.0	950.0	948.4	946.9	945.4	943.9	945.2
5°	950.9	950.2	949.5	948.8	948.1	946.9	945.2	943.6	941.9	940.3	942.2
7.5°	942.8	942.4	942.0	941.6	941.1	940.2	938.9	937.5	936.1	934.8	936.9
10°	936.0	935.8	935.6	935.3	935.1	934.4	933.2	932.0	930.8	929.6	931.8
12.5°	926.7	926.6	926.6	926.5	926.5	926.1	925.3	924.4	923.6	922.8	924.8
15°	911.6	911.8	912.0	912.3	912.5	912.3	911.6	910.9	910.1	909.4	911.6
17.5°	890.9	891.6	892.3	893.1	893.8	894.0	893.9	893.8	893.6	893.5	895.7
20°	876.5	877.2	877.9	878.6	879.3	879.8	880.0	880.2	880.5	880.7	883.1
22.5°	860.3	861.2	862.1	863.0	863.9	864.6	865.0	865.4	865.8	866.3	868.6
25°	833.9	835.3	836.8	838.2	839.6	840.7	841.4	842.1	842.8	843.5	846.1
27.5°	804.6	806.6	808.7	810.8	812.9	814.5	815.6	816.6	817.7	818.8	821.2
30°	785.0	786.9	788.8	790.7	792.6	794.3	796.0	797.6	799.3	800.9	803.5
32.5°	763.7	766.0	768.3	770.5	772.8	774.8	776.7	778.5	780.4	782.2	785.2
35°	729.7	732.5	735.4	738.2	741.0	743.6	746.0	748.4	750.7	753.1	756.4
37.5°	695.4	698.7	702.0	705.2	708.5	711.6	714.5	717.4	720.4	723.3	726.7
40°	673.3	676.4	679.4	682.5	685.6	688.8	692.1	695.4	698.7	702.0	705.6
42.5°	647.8	651.2	654.7	658.1	661.6	665.2	669.1	673.0	676.9	680.7	684.7
45°	608.4	612.9	617.4	621.9	626.4	630.9	635.4	639.9	644.3	648.8	652.9
47.5°	570.8	575.4	580.0	584.7	589.3	594.2	599.4	604.6	609.8	615.0	619.2
50°	543.5	548.7	553.9	559.1	564.3	569.5	574.7	579.9	585.1	590.3	595.1
52.5°	516.3	521.5	526.7	531.9	537.1	542.7	548.6	554.6	560.6	566.5	571.2
55°	476.5	481.5	486.5	491.4	496.4	502.4	509.5	516.6	523.7	530.8	535.5
57.5°	432.1	438.2	444.4	450.5	456.6	463.2	470.3	477.3	484.4	491.4	497.0
60°	403.1	409.3	415.4	421.6	427.7	434.7	442.5	450.3	458.1	465.9	471.3
62.5°	375.0	381.8	388.5	395.2	401.9	409.2	417.0	424.8	432.6	440.4	445.8
65°	329.7	337.3	344.9	352.4	360.0	367.8	375.8	383.9	391.9	399.9	405.8
67.5°	286.1	294.2	302.2	310.2	318.3	326.6	335.2	343.8	352.4	361.0	367.0
70°	256.3	264.4	272.4	280.5	288.5	297.0	306.0	315.0	323.9	332.9	339.3
72.5°	227.4	235.6	243.9	252.1	260.3	269.2	278.8	288.3	297.9	307.4	313.6
75°	183.0	191.7	200.4	209.2	217.9	227.3	237.2	247.1	257.1	267.0	273.6
77.5°	141.5	150.7	160.0	169.3	178.5	188.4	198.8	209.2	219.6	230.0	236.7
80°	115.9	125.4	134.8	144.3	153.8	163.7	174.1	184.5	194.9	205.3	212.4
82.5°	90.4	100.2	110.1	119.9	129.7	139.9	150.3	160.7	171.1	181.5	188.7
85°	56.4	66.3	76.2	86.2	96.1	106.4	117.0	127.6	138.3	148.9	156.0
87.5°	31.8	41.6	51.5	61.4	71.2	81.4	91.9	102.4	113.0	123.5	130.4
90°	18.4	28.9	39.5	50.1	60.6	71.4	82.4	93.3	104.3	115.3	122.7
92.5°	25.9	35.6	45.4	55.2	65.0	75.2	86.0	96.7	107.4	118.1	125.2
95°	41.0	49.7	58.4	67.1	75.8	85.4	95.8	106.2	116.6	127.0	133.7
97.5°	60.0	67.5	74.9	82.4	89.8	98.7	109.1	119.6	130.0	140.4	147.0
100°	75.1	81.7	88.2	94.8	101.3	109.7	119.8	129.9	140.0	150.2	156.8
102.5°	91.8	97.4	102.9	108.5	114.0	121.7	131.6	141.4	151.3	161.1	167.6
105°	115.2	120.0	124.8	129.6	134.5	141.5	150.6	159.8	168.9	178.0	184.3
107.5°	141.7	145.7	149.7	153.7	157.7	163.8	172.2	180.5	188.8	197.2	203.3
110°	159.0	162.5	166.0	169.5	173.0	178.8	187.0	195.2	203.4	211.5	216.8



TEST NUMBER: P332778

CATALOG NUMBER: S124DIW-S795D470U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	177.0	179.9	182.9	185.9	188.8	194.2	201.9	209.6	217.3	225.0	230.2
115°	204.0	206.1	208.2	210.3	212.5	217.2	224.6	231.9	239.3	246.7	251.8
117.5°	230.4	231.7	233.1	234.5	235.8	239.9	246.8	253.7	260.6	267.6	272.1
120°	247.3	248.4	249.5	250.6	251.7	255.6	262.1	268.7	275.2	281.8	286.0
122.5°	265.8	266.1	266.4	266.7	267.0	270.3	276.7	283.0	289.3	295.7	300.0
125°	292.0	291.8	291.5	291.3	291.1	293.8	299.6	305.5	311.3	317.1	321.4
127.5°	316.5	316.6	316.7	316.7	316.8	319.0	323.4	327.8	332.1	336.5	340.6
130°	333.1	333.1	333.2	333.3	333.3	335.3	339.0	342.8	346.6	350.4	354.4
132.5°	350.8	350.8	350.8	350.8	350.8	352.2	355.2	358.1	361.1	364.0	367.9
135°	373.2	373.9	374.5	375.1	375.7	376.8	378.5	380.1	381.8	383.4	387.0
137.5°	398.8	398.9	398.9	398.9	399.0	399.5	400.5	401.4	402.4	403.4	406.5
140°	415.8	415.8	415.8	415.7	415.7	415.8	416.0	416.3	416.5	416.8	419.7
142.5°	430.6	430.7	430.9	431.0	431.2	431.2	430.9	430.7	430.5	430.3	432.9
145°	451.9	452.1	452.3	452.4	452.6	452.7	452.8	452.9	453.0	453.1	454.5
147.5°	473.3	473.6	473.8	474.1	474.3	474.4	474.3	474.2	474.2	474.1	474.2
150°	486.4	486.5	486.7	486.9	487.0	487.1	487.1	487.1	487.1	487.1	487.1
152.5°	497.9	498.0	498.2	498.4	498.6	498.8	498.8	498.9	499.0	499.1	499.3
155°	516.6	516.6	516.6	516.6	516.6	516.5	516.4	516.3	516.2	516.1	516.5
157.5°	532.5	532.3	532.2	532.0	531.8	531.7	531.7	531.7	531.6	531.6	531.9
160°	542.0	541.9	541.8	541.7	541.6	541.5	541.4	541.3	541.2	541.1	541.4
162.5°	550.7	550.4	550.1	549.9	549.6	549.4	549.3	549.2	549.1	549.0	549.6
165°	562.3	562.0	561.7	561.4	561.1	560.9	560.7	560.5	560.3	560.1	560.7
167.5°	571.3	570.9	570.5	570.1	569.6	569.4	569.4	569.5	569.5	569.5	570.1
170°	576.4	575.9	575.4	574.9	574.4	574.2	574.3	574.4	574.5	574.6	575.2
172.5°	580.0	579.6	579.2	578.8	578.3	578.1	578.1	578.2	578.2	578.2	578.9
175°	585.0	584.5	584.0	583.5	583.0	582.7	582.6	582.5	582.4	582.3	583.0
177.5°	586.6	586.2	585.8	585.4	585.0	584.8	584.8	584.8	584.8	584.8	585.4
180°	585.9	585.9	585.9	585.9	585.9	585.9	585.9	585.9	585.9	585.9	585.9



TEST NUMBER: P332778

CATALOG NUMBER: S124DIW-S795D470U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	949.9	949.9	949.9	949.9	949.9	949.9	949.9	949.9
2.5°	946.5	947.9	949.2	949.8	949.6	949.4	949.2	949.0
5°	944.1	946.0	947.8	948.7	948.4	948.2	948.0	947.7
7.5°	939.0	941.1	943.3	944.2	944.0	943.7	943.5	943.3
10°	933.9	936.0	938.2	939.1	938.9	938.6	938.4	938.2
12.5°	926.7	928.7	930.6	931.5	931.5	931.4	931.4	931.3
15°	913.7	915.8	917.9	918.9	918.7	918.4	918.2	917.9
17.5°	897.8	900.0	902.2	903.2	903.0	902.8	902.6	902.4
20°	885.4	887.8	890.2	891.4	891.4	891.4	891.4	891.4
22.5°	871.0	873.3	875.7	877.1	877.5	877.8	878.2	878.6
25°	848.7	851.3	853.9	855.3	855.5	855.8	856.0	856.3
27.5°	823.6	826.0	828.5	829.8	830.1	830.4	830.7	830.9
30°	806.1	808.7	811.3	812.9	813.4	813.8	814.3	814.8
32.5°	788.2	791.2	794.1	795.9	796.3	796.8	797.3	797.8
35°	759.7	763.0	766.3	768.3	769.0	769.7	770.5	771.2
37.5°	730.0	733.4	736.7	738.8	739.5	740.3	741.0	741.8
40°	709.1	712.7	716.2	718.4	719.4	720.3	721.3	722.2
42.5°	688.6	692.5	696.4	698.8	699.5	700.3	701.1	701.8
45°	656.9	660.9	664.9	667.5	668.7	669.9	671.1	672.2
47.5°	623.3	627.5	631.7	634.4	635.9	637.3	638.7	640.1
50°	599.8	604.5	609.2	612.3	613.7	615.2	616.6	618.0
52.5°	576.0	580.7	585.4	588.5	589.9	591.3	592.7	594.2
55°	540.2	545.0	549.7	552.8	554.2	555.6	557.0	558.4
57.5°	502.7	508.3	513.9	517.4	518.7	520.0	521.4	522.7
60°	476.8	482.2	487.6	491.3	493.2	495.1	497.0	498.9
62.5°	451.2	456.7	462.1	465.8	467.7	469.6	471.4	473.3
65°	411.8	417.7	423.6	427.5	429.4	431.3	433.1	435.0
67.5°	373.0	379.0	385.0	388.9	390.8	392.6	394.5	396.3
70°	345.7	352.1	358.5	362.5	364.1	365.8	367.4	369.1
72.5°	319.8	326.0	332.2	336.2	338.0	339.9	341.7	343.6
75°	280.2	286.8	293.5	297.8	300.0	302.1	304.2	306.3
77.5°	243.4	250.1	256.8	261.3	263.6	265.8	268.1	270.4
80°	219.5	226.6	233.7	238.1	240.0	241.9	243.8	245.7
82.5°	196.0	203.3	210.6	215.3	217.3	219.4	221.5	223.6
85°	163.1	170.2	177.3	182.0	184.4	186.7	189.1	191.5
87.5°	137.4	144.4	151.4	155.9	158.0	160.2	162.3	164.4
90°	130.2	137.6	145.1	149.9	152.0	154.1	156.2	158.3
92.5°	132.2	139.2	146.3	150.8	152.8	154.8	156.8	158.8
95°	140.3	147.0	153.7	158.1	160.2	162.4	164.5	166.6
97.5°	153.5	160.1	166.6	170.9	173.0	175.0	177.0	179.1
100°	163.3	169.9	176.5	180.6	182.3	183.9	185.6	187.2
102.5°	174.1	180.6	187.0	191.2	193.2	195.1	197.0	198.9
105°	190.5	196.7	202.9	207.1	209.3	211.5	213.7	215.9
107.5°	209.4	215.5	221.6	225.4	227.1	228.8	230.5	232.2
110°	222.0	227.2	232.5	236.2	238.4	240.6	242.8	245.0





TEST NUMBER: P332778

CATALOG NUMBER: S124DIW-S795D470U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	235.4	240.7	245.9	249.4	251.4	253.3	255.3	257.2
115°	256.9	262.0	267.1	270.4	271.9	273.5	275.0	276.6
117.5°	276.7	281.3	285.8	289.0	290.7	292.4	294.0	295.7
120°	290.2	294.5	298.7	301.8	303.9	306.0	308.1	310.2
122.5°	304.4	308.8	313.2	316.1	317.4	318.7	320.1	321.4
125°	325.7	329.9	334.2	337.0	338.2	339.4	340.6	341.9
127.5°	344.6	348.7	352.7	355.5	356.9	358.4	359.8	361.3
130°	358.5	362.6	366.6	369.1	370.2	371.2	372.2	373.2
132.5°	371.8	375.6	379.5	382.0	383.3	384.6	385.8	387.1
135°	390.6	394.2	397.7	400.1	401.2	402.3	403.4	404.5
137.5°	409.7	412.9	416.1	418.3	419.6	420.8	422.1	423.3
140°	422.7	425.7	428.6	430.7	431.7	432.8	433.9	435.0
142.5°	435.6	438.3	441.0	442.8	443.8	444.7	445.7	446.7
145°	455.8	457.1	458.4	459.4	460.0	460.7	461.3	462.0
147.5°	474.3	474.4	474.5	474.9	475.5	476.2	476.9	477.5
150°	487.1	487.1	487.1	487.1	487.0	486.9	486.8	486.7
152.5°	499.6	499.8	500.1	500.0	499.8	499.5	499.3	499.0
155°	516.9	517.3	517.7	517.7	517.3	516.9	516.5	516.1
157.5°	532.2	532.5	532.8	532.8	532.5	532.1	531.8	531.4
160°	541.7	542.0	542.3	542.2	541.7	541.2	540.6	540.1
162.5°	550.1	550.7	551.2	551.2	550.7	550.2	549.7	549.2
165°	561.3	561.9	562.5	562.6	562.2	561.8	561.4	561.0
167.5°	570.7	571.3	571.9	571.9	571.3	570.7	570.0	569.4
170°	575.8	576.4	577.0	576.9	576.2	575.5	574.8	574.1
172.5°	579.6	580.3	580.9	580.9	580.2	579.5	578.8	578.1
175°	583.7	584.4	585.1	585.1	584.4	583.7	583.0	582.3
177.5°	586.0	586.5	587.1	587.0	586.4	585.8	585.1	584.5
180°	585.9	585.9	585.9	585.9	585.9	585.9	585.9	585.9

(END OF REPORT)