

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: P332597-930

Luminaire Tested: **S124DIP-S795D590U930-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332597-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S795D590U930-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4500.3 lumens  
Efficiency: N/A  
Efficacy: 111.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Direct

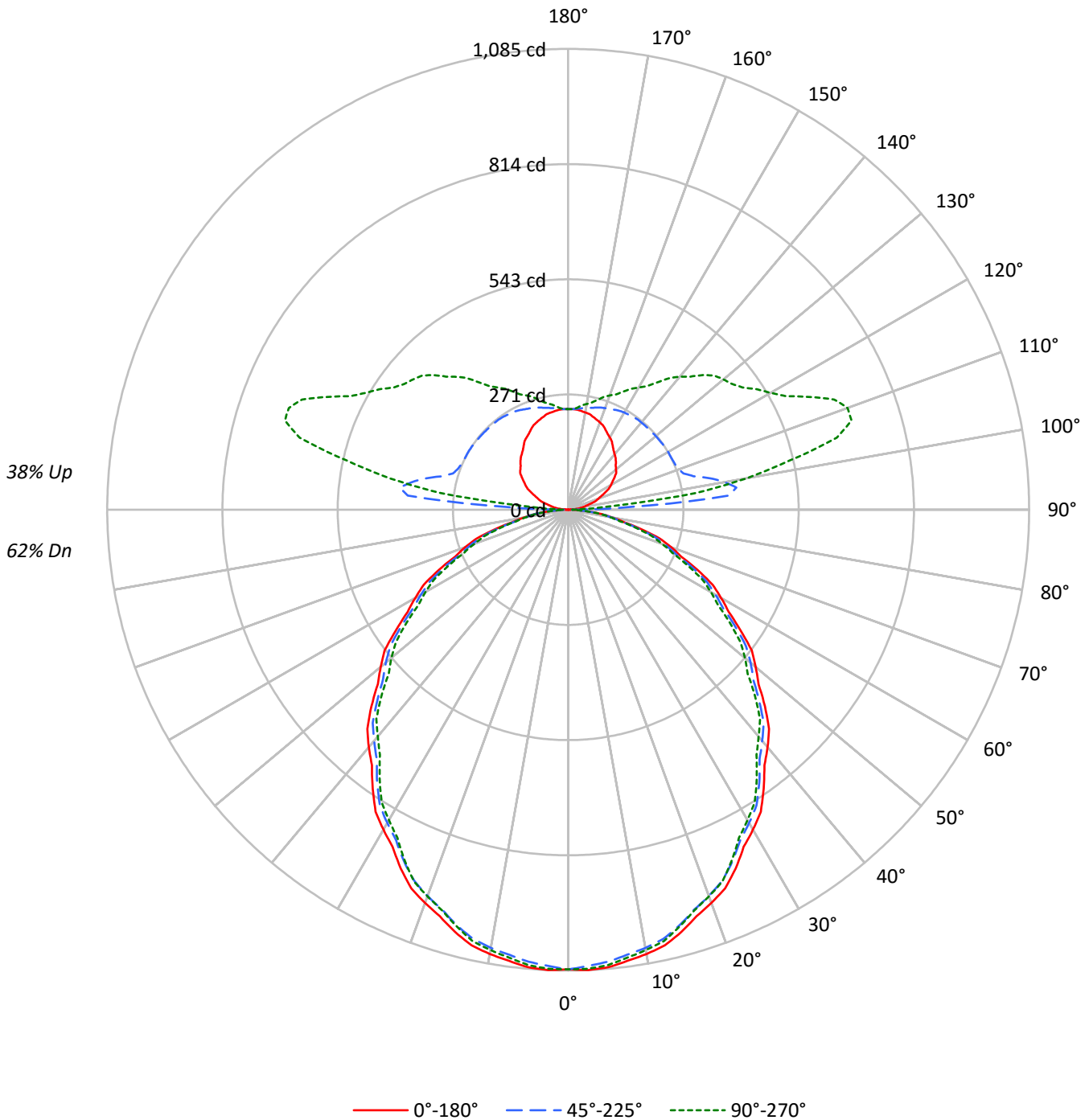
Input Watts (W): 40.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	100	96	92	88	94	90	86	83	79	76	74	69	67	65	59	58	56	52
2	91	84	77	72	85	79	73	68	69	65	61	60	57	54	52	50	48	43
3	83	74	66	60	78	69	63	57	61	56	51	53	49	46	46	43	40	37
4	76	65	57	51	71	61	54	49	54	48	44	47	43	39	41	38	35	32
5	70	58	50	44	65	55	47	42	49	43	38	43	38	34	37	33	30	27
6	65	52	44	38	60	49	42	36	44	38	33	39	34	30	34	30	27	24
7	60	47	39	33	56	45	37	32	40	34	29	35	30	27	31	27	24	21
8	56	43	35	30	52	41	33	28	36	30	26	32	27	24	28	24	21	19
9	52	39	32	27	48	37	30	25	33	27	23	30	25	21	26	22	19	17
10	48	36	29	24	45	34	28	23	31	25	21	27	23	19	24	20	18	16

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

	0°	45°	90°
0°	8737	8737	8737
5°	8763	8658	8721
10°	8708	8588	8630
15°	8603	8466	8487
20°	8463	8314	8322
25°	8304	8141	8118
30°	8108	7938	7866
35°	7906	7727	7624
40°	7695	7484	7347
45°	7476	7247	7108
50°	7232	7036	6818
55°	6970	6763	6542
60°	6707	6455	6260
65°	6411	6162	5914
70°	6080	5773	5549
75°	5571	5303	5168
80°	4956	4756	4635
85°	4335	4177	4094



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.9	2.3
10°-20°	287.2	6.4
20°-30°	422.7	9.4
30°-40°	491.4	10.9
40°-50°	491.4	10.9
50°-60°	429.8	9.6
60°-70°	319.2	7.1
70°-80°	181.4	4.0
80°-90°	53.6	1.2
90°-100°	171.0	3.8
100°-110°	355.9	7.9
110°-120°	318.7	7.1
120°-130°	268.1	6.0
130°-140°	223.6	5.0
140°-150°	170.8	3.8
150°-160°	120.0	2.7
160°-170°	70.6	1.6
170°-180°	23.0	0.5
0°-30°	811.8	18.0
0°-40°	1303.1	29.0
0°-60°	2224.4	49.4
0°-90°	2778.6	61.7
90°-120°	845.6	18.8
90°-150°	1508.1	33.5
90°-180°	1722.0	38.3
0°-180°	4500.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1082	1082	1082	1082	1082	
5°	1081	1078	1068	1077	1076	103
15°	1029	1025	1013	1018	1016	290
25°	932	926	914	915	911	429
35°	802	796	784	778	774	501
45°	655	648	635	626	623	505
55°	495	492	480	470	465	443
65°	336	331	323	314	310	332
75°	179	174	170	167	166	190
85°	47	47	45	45	44	52
90°	0	4	8	9	10	3
95°	15	48	379	188	114	17
105°	54	79	305	657	654	58
115°	96	120	272	523	628	95
125°	134	159	271	445	501	119
135°	159	189	268	395	448	123
145°	183	209	267	333	366	115
155°	208	224	260	294	306	96
165°	226	234	249	263	267	64
175°	236	237	239	242	241	22
180°	237	237	237	237	237	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3
2.5°	1085.1	1084.6	1084.1	1083.7	1083.2	1082.1	1080.4	1078.7	1077.0	1075.4	1076.8
5°	1081.4	1080.7	1079.9	1079.1	1078.3	1076.8	1074.7	1072.6	1070.5	1068.4	1070.5
7.5°	1071.4	1070.6	1069.8	1069.0	1068.3	1066.7	1064.4	1062.0	1059.6	1057.3	1059.0
10°	1062.3	1061.6	1060.8	1060.1	1059.2	1057.6	1055.1	1052.6	1050.1	1047.6	1049.1
12.5°	1050.5	1049.8	1049.0	1048.2	1047.5	1045.7	1043.1	1040.4	1037.8	1035.1	1036.8
15°	1029.4	1028.6	1027.8	1027.0	1026.3	1024.5	1021.6	1018.7	1015.8	1012.9	1014.1
17.5°	1003.9	1002.9	1001.9	1001.0	1000.0	998.2	995.5	992.7	989.9	987.2	988.0
20°	985.1	984.1	983.3	982.3	981.3	979.3	976.5	973.5	970.7	967.8	968.4
22.5°	965.1	963.8	962.5	961.2	959.9	957.9	955.0	952.1	949.2	946.3	947.4
25°	932.2	930.9	929.5	928.2	926.8	924.8	922.1	919.4	916.7	914.0	914.2
27.5°	894.8	893.4	892.0	890.6	889.2	887.3	884.8	882.3	879.8	877.3	876.8
30°	869.8	868.3	866.7	865.2	863.6	861.6	859.1	856.6	854.1	851.6	850.8
32.5°	843.4	842.0	840.7	839.3	837.9	835.8	833.2	830.5	827.9	825.2	824.3
35°	802.2	800.8	799.5	798.1	796.8	794.8	792.1	789.4	786.7	784.0	782.6
37.5°	758.6	757.4	756.2	755.0	753.7	751.6	748.8	745.8	743.0	740.0	738.6
40°	730.2	728.6	727.1	725.5	724.0	721.8	718.9	716.0	713.1	710.2	708.3
42.5°	699.7	698.7	697.8	696.9	695.9	693.9	690.7	687.5	684.3	681.1	678.9
45°	654.8	653.4	652.1	650.7	649.4	647.1	644.1	641.0	637.9	634.8	632.7
47.5°	607.7	606.8	605.9	605.0	604.1	602.2	599.3	596.5	593.6	590.8	588.3
50°	575.8	575.0	574.3	573.5	572.7	571.0	568.3	565.7	562.9	560.2	557.5
52.5°	544.6	543.7	542.7	541.8	540.9	539.0	536.1	533.3	530.4	527.6	525.2
55°	495.2	494.6	494.0	493.4	492.8	491.2	488.5	485.8	483.1	480.5	478.1
57.5°	448.0	447.4	446.7	446.1	445.4	443.7	441.1	438.4	435.8	433.1	430.9
60°	415.4	414.4	413.4	412.5	411.6	409.8	407.3	404.8	402.3	399.8	398.0
62.5°	383.5	382.7	381.9	381.1	380.3	378.5	375.9	373.2	370.6	367.9	366.3
65°	335.6	334.7	333.7	332.7	331.7	330.3	328.4	326.4	324.5	322.6	320.7
67.5°	287.4	286.5	285.6	284.7	283.9	282.5	280.6	278.8	277.0	275.1	273.2
70°	257.6	256.2	254.9	253.5	252.2	250.7	249.2	247.6	246.1	244.6	243.0
72.5°	225.7	224.3	223.0	221.6	220.2	219.0	217.8	216.5	215.2	214.0	212.8
75°	178.6	177.7	176.8	175.8	174.8	173.8	172.8	171.9	171.0	170.0	169.2
77.5°	133.7	133.3	132.9	132.5	132.0	131.4	130.5	129.7	128.8	128.0	127.8
80°	106.6	106.1	105.5	104.9	104.4	103.9	103.5	103.1	102.7	102.3	101.9
82.5°	80.3	80.1	79.7	79.5	79.2	79.1	79.0	78.9	78.8	78.8	78.5
85°	46.8	46.8	46.8	46.8	46.8	46.6	46.2	45.9	45.5	45.1	45.1
87.5°	18.1	18.2	18.3	18.3	18.2	18.0	18.4	18.3	18.3	18.3	18.3
90°	0.5	1.4	2.8	3.3	3.8	3.8	6.5	6.5	7.4	8.4	7.9
92.5°	5.3	7.7	12.1	17.8	24.5	34.2	57.9	93.9	129.1	147.5	122.9
95°	15.3	16.7	21.4	27.5	38.6	58.1	98.6	174.9	286.0	379.0	389.7
97.5°	27.6	27.6	31.6	37.1	46.7	63.1	94.2	157.2	267.7	399.3	489.7
100°	35.4	35.4	38.6	44.2	53.0	67.9	95.3	147.9	242.8	373.9	493.0
102.5°	42.8	43.5	46.4	51.6	60.1	74.2	99.1	145.3	226.0	342.3	465.0
105°	54.4	55.8	58.1	63.8	72.1	85.6	107.9	146.5	211.7	305.1	414.4
107.5°	67.3	68.2	70.5	76.5	84.5	97.8	118.2	153.4	209.0	284.3	373.5
110°	75.8	76.7	79.1	84.6	93.0	105.6	126.0	158.6	209.8	277.2	353.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	84.0	85.0	87.6	92.9	101.2	113.7	133.5	164.2	212.0	273.9	341.4
115°	95.8	97.2	100.4	105.1	114.0	126.5	145.1	173.0	216.3	272.1	330.7
117.5°	108.1	109.4	112.3	117.4	125.6	138.7	156.4	182.1	220.8	271.6	325.9
120°	116.3	117.2	120.4	125.6	133.5	146.5	164.2	188.3	224.2	271.6	323.3
122.5°	123.7	124.7	127.9	132.6	141.3	153.9	171.6	194.3	227.6	271.3	320.2
125°	133.5	135.3	138.1	143.2	152.1	165.1	181.8	203.3	232.5	270.7	315.4
127.5°	142.1	143.7	147.0	152.8	162.0	175.1	191.4	211.0	236.5	269.6	308.8
130°	147.0	148.8	152.5	159.6	168.4	181.8	197.6	215.8	239.5	269.3	304.6
132.5°	151.8	153.3	158.2	164.8	174.3	187.0	202.8	220.6	242.1	268.9	300.9
135°	158.6	160.5	165.1	173.0	182.8	194.9	210.2	227.0	246.1	268.3	295.3
137.5°	165.4	167.1	172.3	179.8	190.0	201.5	215.8	231.5	248.3	268.2	290.5
140°	170.2	171.6	176.8	184.7	194.4	205.5	219.6	234.4	250.2	267.9	287.9
142.5°	175.5	176.8	181.6	189.1	198.5	209.3	222.9	236.6	251.7	267.9	285.7
145°	182.8	184.2	188.8	195.3	204.2	214.4	226.5	239.0	252.6	266.9	281.8
147.5°	191.0	191.5	195.6	202.3	209.7	218.9	230.2	241.2	253.0	265.3	278.4
150°	196.2	196.7	200.5	206.0	213.0	221.8	232.1	242.3	253.0	264.2	275.8
152.5°	201.1	201.2	204.9	210.1	216.4	224.5	233.6	243.0	252.3	262.3	272.8
155°	207.9	208.4	211.2	215.8	220.9	227.9	235.8	243.7	251.1	259.5	268.3
157.5°	214.5	214.5	217.1	220.7	225.2	230.6	237.4	243.7	250.0	256.7	263.8
160°	218.6	218.6	220.5	223.7	227.4	232.5	238.1	243.7	248.8	254.4	260.5
162.5°	222.3	221.9	223.4	226.3	229.7	233.7	238.9	243.7	247.7	252.2	257.5
165°	226.5	226.5	227.4	229.8	232.1	234.9	239.0	242.8	245.6	248.8	252.6
167.5°	230.6	230.2	230.6	232.4	233.7	235.9	239.0	241.7	243.4	245.5	248.1
170°	232.5	232.1	232.5	233.9	234.9	236.3	238.6	240.9	241.8	243.2	245.1
172.5°	234.4	233.9	234.0	235.1	235.6	236.6	238.2	240.2	240.4	241.0	242.5
175°	236.3	235.8	235.8	236.3	236.8	236.8	237.7	239.0	238.6	238.6	239.5
177.5°	237.1	236.8	236.4	236.8	236.8	236.8	237.1	237.8	237.1	237.1	237.5
180°	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3
2.5°	1078.4	1079.9	1081.5	1082.2	1082.1	1081.9	1081.7	1081.6
5°	1072.6	1074.7	1076.8	1077.7	1077.3	1077.0	1076.6	1076.2
7.5°	1060.7	1062.4	1064.0	1064.8	1064.6	1064.4	1064.1	1063.9
10°	1050.7	1052.2	1053.8	1054.3	1053.9	1053.5	1053.2	1052.8
12.5°	1038.5	1040.2	1041.9	1042.4	1042.0	1041.4	1040.8	1040.3
15°	1015.2	1016.4	1017.5	1017.8	1017.2	1016.7	1016.1	1015.5
17.5°	988.7	989.4	990.2	990.3	989.9	989.5	989.2	988.8
20°	969.0	969.6	970.1	970.2	969.8	969.5	969.1	968.7
22.5°	948.4	949.4	950.5	950.6	949.9	949.3	948.5	947.9
25°	914.4	914.6	914.8	914.5	913.8	913.0	912.2	911.4
27.5°	876.4	875.9	875.4	874.7	873.8	872.8	871.8	870.8
30°	850.0	849.3	848.5	847.7	846.7	845.7	844.7	843.8
32.5°	823.4	822.5	821.6	820.6	819.6	818.6	817.7	816.8
35°	781.3	779.9	778.5	777.4	776.4	775.5	774.5	773.6
37.5°	737.1	735.6	734.3	732.9	731.6	730.3	729.0	727.7
40°	706.4	704.5	702.5	701.1	700.1	699.2	698.2	697.2
42.5°	676.6	674.4	672.1	670.7	670.1	669.4	668.8	668.1
45°	630.6	628.4	626.3	625.0	624.4	623.8	623.2	622.6
47.5°	586.0	583.6	581.1	579.3	577.8	576.3	574.9	573.4
50°	554.8	552.1	549.4	547.5	546.3	545.2	544.0	542.9
52.5°	522.9	520.4	518.0	516.2	514.7	513.2	511.8	510.3
55°	475.8	473.5	471.2	469.4	468.3	467.2	465.9	464.8
57.5°	428.7	426.5	424.3	422.7	421.5	420.4	419.3	418.2
60°	396.3	394.6	392.8	391.5	390.5	389.6	388.6	387.7
62.5°	364.7	363.1	361.6	360.3	359.3	358.3	357.4	356.4
65°	318.8	316.8	314.9	313.5	312.5	311.5	310.5	309.6
67.5°	271.4	269.5	267.7	266.6	266.4	266.1	265.8	265.5
70°	241.5	239.9	238.4	237.3	236.8	236.2	235.6	235.1
72.5°	211.6	210.3	209.1	208.2	207.6	207.0	206.4	205.9
75°	168.4	167.6	166.9	166.4	166.2	166.0	165.8	165.7
77.5°	127.5	127.3	127.1	126.7	126.2	125.7	125.2	124.7
80°	101.6	101.2	100.8	100.5	100.3	100.1	100.0	99.7
82.5°	78.3	78.0	77.8	77.6	77.5	77.2	77.0	76.8
85°	45.1	45.1	45.1	45.0	44.8	44.6	44.4	44.2
87.5°	18.3	18.4	18.5	18.5	18.6	18.7	18.6	18.6
90°	8.4	8.8	9.3	9.3	9.8	10.2	9.8	9.8
92.5°	91.3	68.7	54.7	45.4	39.9	37.4	35.8	35.8
95°	344.6	272.6	210.2	165.1	142.4	127.9	119.5	113.5
97.5°	509.2	482.4	436.9	388.3	355.0	326.9	313.0	303.3
100°	560.9	570.2	547.4	513.0	472.5	444.2	430.2	426.5
102.5°	558.3	604.5	611.1	596.7	571.9	551.3	536.6	533.6
105°	520.9	601.4	647.4	666.5	667.4	663.7	657.1	654.4
107.5°	467.8	553.4	618.3	659.7	682.7	693.3	698.0	699.2
110°	435.8	516.2	583.7	634.9	667.9	687.4	695.8	699.9





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CATALOG NUMBER: S124DIP-S795D590U930-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	412.4	483.5	547.2	598.3	635.9	659.5	671.2	678.0
115°	388.8	446.1	500.4	545.1	581.8	609.8	624.6	628.4
117.5°	377.2	424.6	467.4	505.2	536.6	560.0	575.1	578.0
120°	372.1	415.3	452.5	485.5	512.1	532.6	544.6	549.8
122.5°	367.6	409.4	443.2	472.1	494.6	512.1	522.3	527.4
125°	360.0	400.0	432.0	457.6	476.2	489.8	498.6	501.3
127.5°	350.7	388.9	420.9	445.2	463.9	475.9	483.3	486.1
130°	343.2	380.0	411.6	436.3	455.3	466.9	474.4	477.2
132.5°	335.4	369.9	400.8	425.4	444.2	457.3	464.3	467.2
135°	324.7	354.9	383.2	406.5	425.1	438.1	445.6	448.3
137.5°	314.9	340.5	364.4	385.4	402.8	415.6	421.8	425.1
140°	309.2	331.2	352.0	371.6	387.9	398.1	404.6	408.4
142.5°	304.1	323.3	341.3	358.2	372.6	382.1	387.9	390.4
145°	296.7	312.5	326.5	339.5	351.1	359.1	363.7	366.0
147.5°	290.7	303.2	314.4	324.7	333.2	340.0	343.5	344.4
150°	287.0	297.7	307.0	315.4	322.8	328.8	331.6	332.1
152.5°	282.8	292.0	300.6	307.5	313.8	318.8	320.4	320.9
155°	276.7	284.1	291.1	296.7	301.4	305.1	306.5	306.5
157.5°	270.1	276.4	282.2	286.7	290.2	293.0	293.8	293.8
160°	266.0	271.2	276.2	280.0	282.7	285.6	286.0	286.0
162.5°	262.0	266.3	270.3	273.7	275.7	278.5	279.0	278.6
165°	256.2	259.0	262.3	264.6	266.5	268.3	267.9	267.4
167.5°	250.8	252.9	255.5	256.9	257.9	259.0	258.9	258.6
170°	247.4	248.8	250.7	252.1	253.0	253.5	253.0	253.0
172.5°	244.4	245.5	246.6	247.6	248.2	248.7	248.2	247.4
175°	240.4	240.9	241.8	241.8	241.8	242.8	241.8	240.9
177.5°	237.8	238.2	238.2	238.6	238.2	238.6	237.8	237.1
180°	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8

(END OF REPORT)