

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: P332561

Luminaire Tested: **S124DIP-S575D810U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332561  
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-S575D810U835-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5388.9 lumens  
Efficiency: N/A  
Efficacy: 140.3 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: General Diffuse

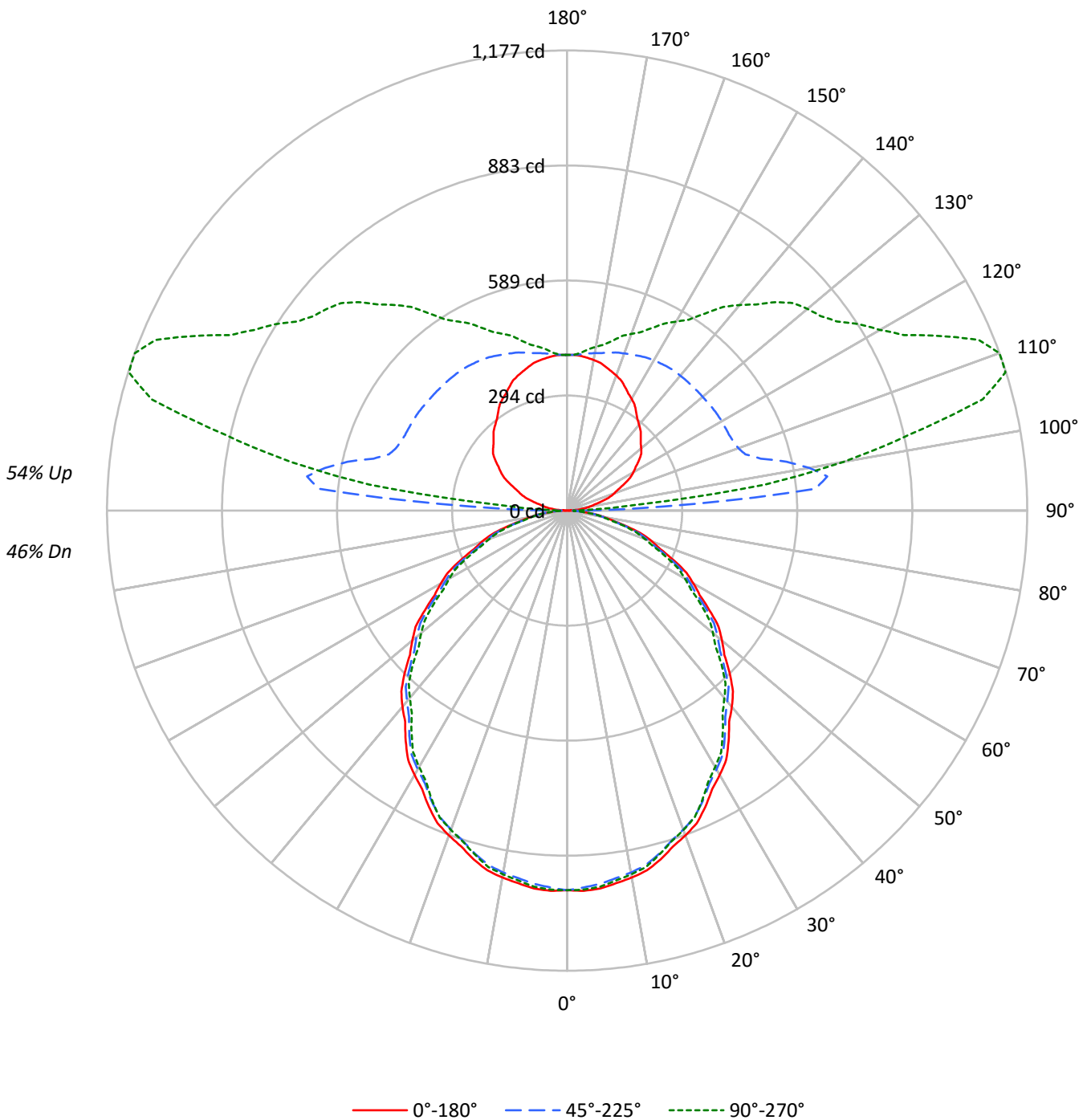
Input Watts (W): 38.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20										
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	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53	46																				
1	97	93	89	85	89	85	82	79	71	69	67	58	57	55	47	45	44	39																				
2	88	81	75	70	81	74	69	65	62	58	55	51	48	46	41	39	37	33																				
3	80	71	64	58	74	65	59	54	55	50	46	45	42	39	36	34	32	28																				
4	74	63	55	49	67	58	51	46	49	44	39	40	36	33	32	30	27	24																				
5	68	56	48	42	62	52	45	39	44	38	34	36	32	29	29	26	24	21																				
6	62	50	42	36	57	46	39	34	39	34	30	33	28	25	26	23	21	18																				
7	57	45	37	32	53	42	35	30	36	30	26	30	25	22	24	21	19	16																				
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	17	14																				
9	50	37	30	25	46	35	28	24	30	24	21	25	21	18	20	17	15	13																				
10	46	34	27	22	43	32	25	21	27	22	19	23	19	16	19	16	14	12																				

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

	0°	45°	90°
0°	7840	7840	7840
5°	7864	7769	7826
10°	7814	7706	7744
15°	7720	7596	7616
20°	7594	7460	7467
25°	7451	7306	7285
30°	7276	7124	7058
35°	7094	6933	6841
40°	6905	6716	6593
45°	6707	6503	6379
50°	6489	6314	6118
55°	6253	6068	5871
60°	6018	5792	5616
65°	5752	5530	5307
70°	5455	5179	4978
75°	5000	4757	4635
80°	4449	4268	4161
85°	3890	3751	3677



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.5	1.7
10°-20°	257.7	4.8
20°-30°	379.3	7.0
30°-40°	440.9	8.2
40°-50°	440.9	8.2
50°-60°	385.7	7.2
60°-70°	286.4	5.3
70°-80°	162.7	3.0
80°-90°	49.2	0.9
90°-100°	287.5	5.3
100°-110°	598.3	11.1
110°-120°	535.9	9.9
120°-130°	450.8	8.4
130°-140°	375.9	7.0
140°-150°	287.1	5.3
150°-160°	201.8	3.7
160°-170°	118.7	2.2
170°-180°	38.6	0.7
0°-30°	728.4	13.5
0°-40°	1169.3	21.7
0°-60°	1996.0	37.0
0°-90°	2494.3	46.3
90°-120°	1421.6	26.4
90°-150°	2535.4	47.0
90°-180°	2895.0	53.7
0°-180°	5388.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	971	971	971	971	971	
5°	970	967	959	967	966	92
15°	924	920	909	913	911	260
25°	836	831	820	821	818	385
35°	720	714	704	698	694	450
45°	588	582	570	561	559	453
55°	444	442	431	422	417	398
65°	301	297	290	282	278	298
75°	160	156	152	150	149	170
85°	42	42	40	40	40	46
90°	1	6	14	16	16	4
95°	26	81	637	316	191	29
105°	92	133	513	1104	1100	98
115°	161	202	457	879	1056	160
125°	224	267	455	748	843	200
135°	267	317	451	664	754	206
145°	307	352	449	560	615	193
155°	350	377	436	494	515	161
165°	381	393	418	443	450	107
175°	397	398	401	407	405	38
180°	398	398	398	398	398	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	971.1	971.1	971.1	971.1	971.1	971.1	971.1	971.1	971.1	971.1	971.1
2.5°	973.6	973.2	972.8	972.4	972.0	971.0	969.5	968.0	966.4	964.9	966.3
5°	970.4	969.7	969.0	968.3	967.6	966.3	964.4	962.5	960.6	958.7	960.6
7.5°	961.3	960.6	960.0	959.3	958.6	957.2	955.1	953.0	950.8	948.7	950.3
10°	953.2	952.6	951.9	951.2	950.5	949.0	946.8	944.5	942.3	940.0	941.4
12.5°	942.7	942.0	941.3	940.6	939.9	938.4	936.0	933.6	931.2	928.8	930.3
15°	923.7	923.0	922.3	921.6	920.9	919.3	916.7	914.1	911.5	908.9	909.9
17.5°	900.8	899.9	899.1	898.2	897.3	895.7	893.2	890.8	888.3	885.9	886.5
20°	884.0	883.1	882.3	881.4	880.5	878.8	876.2	873.6	871.0	868.4	868.9
22.5°	865.9	864.8	863.7	862.5	861.4	859.5	856.9	854.3	851.7	849.1	850.1
25°	836.5	835.3	834.1	832.9	831.7	829.9	827.4	825.0	822.6	820.2	820.4
27.5°	802.9	801.7	800.4	799.2	797.9	796.2	793.9	791.7	789.4	787.2	786.8
30°	780.5	779.1	777.7	776.3	775.0	773.1	770.9	768.6	766.4	764.2	763.5
32.5°	756.8	755.6	754.3	753.1	751.9	750.0	747.7	745.3	742.9	740.5	739.7
35°	719.8	718.6	717.4	716.2	715.0	713.1	710.7	708.3	705.9	703.5	702.2
37.5°	680.7	679.6	678.5	677.4	676.3	674.5	671.9	669.3	666.7	664.1	662.8
40°	655.2	653.8	652.4	651.1	649.7	647.7	645.1	642.5	639.9	637.3	635.6
42.5°	627.8	627.0	626.2	625.3	624.5	622.6	619.8	616.9	614.0	611.2	609.2
45°	587.5	586.3	585.1	583.9	582.7	580.7	577.9	575.1	572.4	569.6	567.7
47.5°	545.3	544.5	543.7	542.8	542.0	540.3	537.8	535.2	532.6	530.1	527.9
50°	516.7	516.0	515.3	514.6	513.9	512.4	510.0	507.5	505.1	502.7	500.3
52.5°	488.7	487.9	487.0	486.2	485.4	483.7	481.1	478.6	476.0	473.4	471.3
55°	444.3	443.8	443.3	442.8	442.3	440.8	438.4	435.9	433.5	431.1	429.0
57.5°	402.0	401.4	400.8	400.2	399.6	398.2	395.8	393.4	391.0	388.6	386.6
60°	372.7	371.9	371.0	370.1	369.3	367.7	365.5	363.2	361.0	358.7	357.2
62.5°	344.1	343.4	342.6	341.9	341.2	339.6	337.3	334.9	332.5	330.1	328.7
65°	301.1	300.3	299.4	298.6	297.7	296.4	294.7	292.9	291.2	289.5	287.7
67.5°	257.9	257.1	256.3	255.5	254.7	253.5	251.8	250.2	248.5	246.8	245.2
70°	231.1	229.9	228.7	227.5	226.3	225.0	223.6	222.2	220.8	219.4	218.1
72.5°	202.5	201.3	200.1	198.8	197.6	196.5	195.4	194.3	193.2	192.0	190.9
75°	160.3	159.4	158.6	157.7	156.8	156.0	155.1	154.2	153.4	152.5	151.8
77.5°	120.0	119.6	119.2	118.9	118.5	117.9	117.1	116.4	115.6	114.9	114.6
80°	95.7	95.2	94.7	94.2	93.6	93.2	92.9	92.5	92.2	91.8	91.5
82.5°	72.1	71.8	71.6	71.3	71.1	70.9	70.9	70.8	70.7	70.7	70.4
85°	42.0	42.0	42.0	42.0	42.0	41.8	41.5	41.2	40.8	40.5	40.5
87.5°	16.3	16.5	16.8	16.9	16.9	16.7	17.5	17.4	17.6	17.8	17.6
90°	0.8	2.3	4.7	5.5	6.3	6.3	10.9	10.9	12.5	14.1	13.3
92.5°	8.9	13.0	20.3	29.9	41.3	57.5	97.3	157.9	217.1	248.0	206.6
95°	25.8	28.1	36.0	46.1	64.9	97.7	165.8	294.0	480.9	637.3	655.3
97.5°	46.3	46.3	53.0	62.4	78.5	106.0	158.4	264.3	450.1	671.2	823.2
100°	59.4	59.4	64.9	74.3	89.1	114.2	160.3	248.7	408.2	628.7	828.8
102.5°	71.9	73.2	78.0	86.8	101.0	124.8	166.5	244.3	380.0	575.5	781.9
105°	91.5	93.8	97.7	107.1	121.2	143.9	181.4	246.3	355.8	512.9	696.7
107.5°	113.1	114.6	118.5	128.5	142.0	164.4	198.8	257.9	351.4	477.9	627.9
110°	127.5	129.0	132.9	142.3	156.4	177.5	211.9	266.6	352.6	466.0	593.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	141.2	142.8	147.3	156.1	170.1	191.3	224.4	276.0	356.4	460.4	574.1
115°	161.1	163.4	168.9	176.7	191.6	212.7	244.0	290.9	363.6	457.4	555.9
117.5°	181.7	183.9	188.8	197.4	211.3	233.2	262.9	306.0	371.3	456.6	547.8
120°	195.5	197.0	202.5	211.1	224.4	246.3	276.0	316.7	376.9	456.6	543.4
122.5°	208.0	209.6	215.0	223.0	237.5	258.8	288.5	326.7	382.5	456.0	538.4
125°	224.4	227.5	232.2	240.8	255.7	277.6	305.7	341.7	391.0	455.1	530.1
127.5°	239.0	241.5	247.1	256.9	272.4	294.5	321.7	354.7	397.7	453.4	519.0
130°	247.1	250.2	256.5	268.2	283.1	305.7	332.3	362.8	402.7	452.7	512.2
132.5°	255.2	257.7	265.9	277.0	293.1	314.5	341.1	370.9	407.1	452.1	505.9
135°	266.6	269.8	277.6	290.9	307.3	327.6	353.4	381.6	413.6	451.2	496.5
137.5°	278.1	281.0	289.6	302.3	319.3	338.7	362.8	389.1	417.5	451.0	488.4
140°	286.2	288.5	297.1	310.4	326.8	345.6	369.1	394.1	420.7	450.4	484.0
142.5°	294.9	297.3	305.3	317.9	333.7	351.9	374.7	397.8	423.2	450.4	480.3
145°	307.3	309.6	317.5	328.4	343.3	360.5	380.8	401.9	424.6	448.8	473.8
147.5°	321.2	322.0	328.9	340.1	352.5	368.0	387.1	405.5	425.4	446.0	468.1
150°	330.0	330.8	337.0	346.4	358.1	373.0	390.2	407.4	425.4	444.1	463.7
152.5°	338.1	338.3	344.5	353.3	363.8	377.4	392.7	408.6	424.1	441.0	458.7
155°	349.5	350.3	355.0	362.8	371.4	383.1	396.4	409.7	422.2	436.3	451.2
157.5°	360.6	360.6	365.0	371.1	378.6	387.8	399.1	409.7	420.2	431.5	443.5
160°	367.5	367.5	370.6	376.1	382.4	391.0	400.3	409.7	418.3	427.7	437.9
162.5°	373.8	373.1	375.6	380.5	386.1	392.8	401.6	409.7	416.5	424.0	432.9
165°	380.8	380.8	382.4	386.3	390.2	394.9	401.9	408.2	412.9	418.3	424.6
167.5°	387.8	387.1	387.8	390.8	393.0	396.6	401.8	406.3	409.1	412.7	417.1
170°	391.0	390.2	391.0	393.3	394.9	397.2	401.1	405.0	406.6	408.9	412.1
172.5°	394.1	393.3	393.5	395.2	396.1	397.8	400.5	403.8	404.1	405.2	407.7
175°	397.2	396.4	396.4	397.2	398.0	398.0	399.6	401.9	401.1	401.1	402.7
177.5°	398.6	398.0	397.4	398.0	398.0	398.0	398.6	399.9	398.6	398.6	399.2
180°	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	971.1	971.1	971.1	971.1	971.1	971.1	971.1	971.1
2.5°	967.7	969.1	970.5	971.1	970.9	970.8	970.7	970.5
5°	962.5	964.4	966.3	967.1	966.7	966.4	966.0	965.7
7.5°	951.8	953.3	954.8	955.5	955.3	955.1	954.9	954.6
10°	942.8	944.2	945.6	946.1	945.7	945.4	945.0	944.7
12.5°	931.9	933.4	934.9	935.4	934.9	934.4	934.0	933.5
15°	911.0	912.0	913.0	913.3	912.8	912.3	911.7	911.2
17.5°	887.2	887.8	888.5	888.6	888.3	887.9	887.6	887.3
20°	869.5	870.0	870.5	870.6	870.2	869.9	869.6	869.2
22.5°	851.0	851.9	852.9	853.0	852.4	851.8	851.2	850.5
25°	820.5	820.7	820.9	820.6	819.9	819.2	818.5	817.8
27.5°	786.4	785.9	785.5	784.9	784.0	783.2	782.3	781.4
30°	762.8	762.1	761.4	760.6	759.7	758.9	758.0	757.1
32.5°	738.8	738.0	737.2	736.3	735.5	734.6	733.7	732.9
35°	701.0	699.8	698.6	697.6	696.7	695.8	695.0	694.1
37.5°	661.5	660.1	658.8	657.6	656.5	655.3	654.2	653.0
40°	633.9	632.1	630.4	629.1	628.2	627.4	626.5	625.6
42.5°	607.2	605.1	603.1	601.8	601.3	600.7	600.1	599.5
45°	565.8	563.9	562.0	560.8	560.3	559.8	559.2	558.7
47.5°	525.8	523.6	521.5	519.8	518.5	517.1	515.8	514.5
50°	497.8	495.4	493.0	491.3	490.2	489.2	488.2	487.1
52.5°	469.1	467.0	464.9	463.1	461.8	460.5	459.2	457.9
55°	427.0	424.9	422.8	421.2	420.2	419.2	418.1	417.1
57.5°	384.7	382.7	380.7	379.2	378.2	377.2	376.2	375.2
60°	355.6	354.1	352.5	351.3	350.4	349.6	348.7	347.8
62.5°	327.3	325.8	324.4	323.3	322.4	321.6	320.7	319.8
65°	286.0	284.3	282.6	281.3	280.4	279.5	278.7	277.8
67.5°	243.5	241.9	240.2	239.2	239.0	238.8	238.5	238.3
70°	216.7	215.3	213.9	213.0	212.4	211.9	211.4	210.9
72.5°	189.8	188.7	187.6	186.8	186.3	185.8	185.3	184.7
75°	151.1	150.4	149.8	149.3	149.1	149.0	148.8	148.6
77.5°	114.4	114.2	114.0	113.7	113.2	112.8	112.3	111.9
80°	91.1	90.8	90.4	90.2	90.0	89.8	89.7	89.5
82.5°	70.2	70.0	69.8	69.6	69.5	69.3	69.1	68.9
85°	40.5	40.5	40.5	40.4	40.2	40.0	39.9	39.7
87.5°	17.8	17.9	18.1	18.1	18.2	18.4	18.2	18.2
90°	14.1	14.9	15.6	15.6	16.4	17.2	16.4	16.4
92.5°	153.6	115.6	92.0	76.3	67.1	62.9	60.2	60.2
95°	579.4	458.2	353.4	277.6	239.3	215.0	201.0	190.8
97.5°	856.0	811.0	734.5	652.9	596.8	549.7	526.2	510.0
100°	943.0	958.6	920.3	862.5	794.4	746.7	723.3	717.0
102.5°	938.6	1016.2	1027.3	1003.2	961.5	926.9	902.2	897.2
105°	875.8	1011.0	1088.4	1120.5	1122.1	1115.8	1104.9	1100.2
107.5°	786.5	930.5	1039.5	1109.2	1147.9	1165.7	1173.5	1175.5
110°	732.7	867.9	981.3	1067.3	1122.8	1155.7	1169.8	1176.8





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CATALOG NUMBER: S124DIP-S575D810U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	693.3	812.9	920.0	1006.0	1069.0	1108.8	1128.5	1139.9
115°	653.7	749.9	841.3	916.4	978.2	1025.1	1050.1	1056.4
117.5°	634.3	713.9	785.8	849.5	902.2	941.6	966.9	971.8
120°	625.5	698.3	760.8	816.3	860.9	895.3	915.6	924.2
122.5°	618.0	688.2	745.2	793.8	831.5	860.9	878.1	886.7
125°	605.2	672.5	726.4	769.4	800.7	823.4	838.2	842.9
127.5°	589.6	653.8	707.6	748.5	779.9	800.1	812.6	817.3
130°	577.1	638.8	692.0	733.4	765.5	785.1	797.6	802.3
132.5°	563.9	621.9	673.9	715.3	746.7	768.8	780.7	785.4
135°	545.8	596.6	644.3	683.4	714.7	736.6	749.1	753.8
137.5°	529.4	572.4	612.6	647.9	677.1	698.7	709.0	714.7
140°	520.0	556.7	591.9	624.8	652.1	669.3	680.3	686.5
142.5°	511.2	543.6	573.8	602.2	626.5	642.4	652.1	656.5
145°	498.9	525.5	548.9	570.8	590.4	603.6	611.5	615.4
147.5°	488.7	509.8	528.6	545.8	560.2	571.6	577.5	578.9
150°	482.4	500.4	516.1	530.1	542.7	552.8	557.5	558.3
152.5°	475.6	491.0	505.4	517.0	527.6	535.9	538.7	539.5
155°	465.2	477.8	489.5	498.9	506.7	512.9	515.3	515.3
157.5°	454.1	464.6	474.5	482.0	487.9	492.6	494.0	494.0
160°	447.3	455.9	464.5	470.7	475.4	480.1	480.9	480.9
162.5°	440.4	447.7	454.5	460.1	463.5	468.2	469.0	468.4
165°	430.8	435.5	441.0	444.9	448.0	451.2	450.4	449.6
167.5°	421.6	425.2	429.6	431.9	433.5	435.5	435.4	434.7
170°	416.0	418.3	421.5	423.8	425.4	426.1	425.4	425.4
172.5°	411.0	412.7	414.6	416.3	417.2	418.0	417.2	416.0
175°	404.3	405.0	406.6	406.6	406.6	408.2	406.6	405.0
177.5°	399.9	400.5	400.5	401.1	400.5	401.1	399.9	398.6
180°	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0

(END OF REPORT)