

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: P331934-840

Luminaire Tested: **S123DIP-S560D805U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331934-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S560D805U840-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5584.7 lumens  
Efficiency: N/A  
Efficacy: 145.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

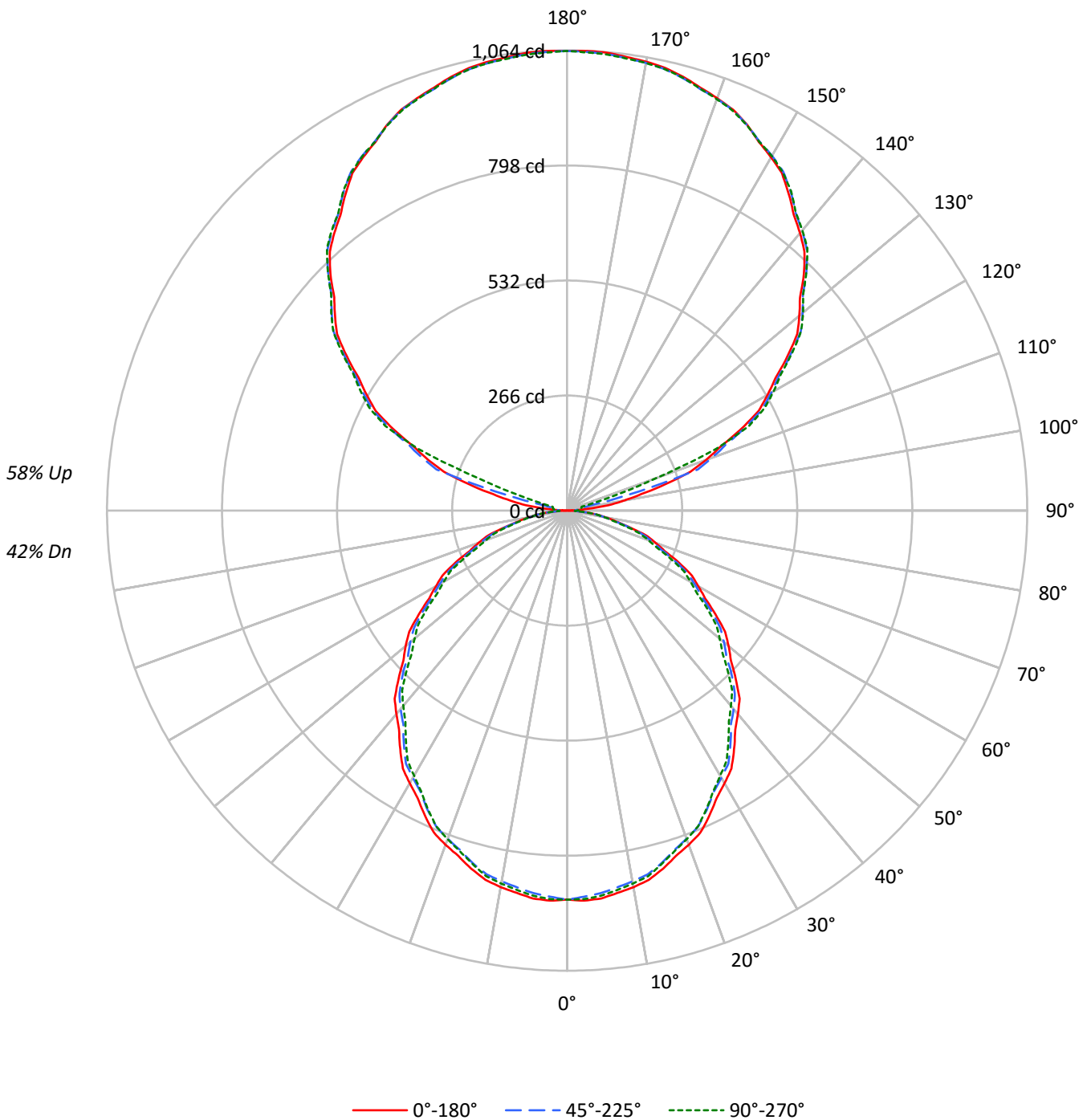
Input Watts (W): 38.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42
1	96	92	88	84	87	84	80	77	69	67	65	55	54	52	43	42	41	35
2	87	80	74	69	79	73	68	64	60	57	53	49	46	44	38	36	34	29
3	80	70	63	57	72	64	58	53	53	49	45	43	40	37	33	31	29	25
4	73	62	54	48	66	57	50	45	47	42	38	38	35	32	30	27	25	21
5	67	55	47	41	61	51	44	38	42	37	33	34	30	27	27	24	22	19
6	61	49	41	36	56	46	38	33	38	33	29	31	27	24	24	22	19	16
7	57	45	37	31	52	41	34	29	34	29	25	28	24	21	22	19	17	14
8	53	40	33	28	48	37	31	26	31	26	22	26	22	19	20	18	15	13
9	49	37	29	24	45	34	27	23	29	24	20	24	20	17	19	16	14	12
10	46	34	27	22	42	31	25	21	26	21	18	22	18	15	17	15	13	11

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

	0°	45°	90°
0°	9684	9684	9684
5°	9729	9596	9662
10°	9664	9512	9571
15°	9551	9404	9423
20°	9419	9251	9260
25°	9242	9069	9049
30°	9047	8866	8797
35°	8843	8650	8539
40°	8630	8413	8283
45°	8397	8196	7995
50°	8162	7927	7708
55°	7854	7651	7418
60°	7543	7326	7093
65°	7272	6976	6757
70°	6864	6571	6279
75°	6276	6047	5793
80°	5659	5424	5368
85°	4965	4780	4594



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.7	1.5
10°-20°	239.3	4.3
20°-30°	353.5	6.3
30°-40°	412.9	7.4
40°-50°	415.1	7.4
50°-60°	364.6	6.5
60°-70°	271.7	4.9
70°-80°	154.8	2.8
80°-90°	47.4	0.8
90°-100°	38.6	0.7
100°-110°	184.1	3.3
110°-120°	442.3	7.9
120°-130°	563.2	10.1
130°-140°	601.8	10.8
140°-150°	562.7	10.1
150°-160°	453.9	8.1
160°-170°	293.0	5.2
170°-180°	101.0	1.8
0°-30°	677.5	12.1
0°-40°	1090.4	19.5
0°-60°	1870.2	33.5
0°-90°	2344.0	42.0
90°-120°	665.1	11.9
90°-150°	2392.8	42.8
90°-180°	3241.0	58.0
0°-180°	5584.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	900	900	900	900	900	
5°	900	896	888	895	894	85
15°	857	854	844	850	846	242
25°	778	773	764	764	762	358
35°	673	668	658	654	650	421
45°	552	548	538	529	525	426
55°	418	417	408	399	395	375
65°	286	281	274	268	265	282
75°	151	148	145	142	139	161
85°	40	39	39	37	37	44
90°	1	9	19	22	24	4
95°	48	18	24	30	30	60
105°	235	240	173	41	35	249
115°	441	446	453	461	464	435
125°	622	628	632	633	635	555
135°	774	779	782	784	782	596
145°	894	899	901	902	902	559
155°	984	983	984	987	983	453
165°	1038	1036	1035	1041	1036	293
175°	1063	1059	1060	1064	1059	101
180°	1063	1063	1063	1063	1063	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7
2.5°	902.7	902.2	901.7	901.1	900.6	899.5	898.0	896.5	895.0	893.5	894.8
5°	900.4	899.6	898.7	897.9	897.0	895.6	893.7	891.8	890.0	888.1	889.8
7.5°	891.6	890.8	889.9	889.1	888.2	886.8	884.8	882.8	880.9	879.0	880.5
10°	884.2	883.3	882.5	881.6	880.8	879.2	877.0	874.7	872.5	870.3	871.8
12.5°	874.3	873.5	872.8	872.1	871.4	870.0	867.9	865.8	863.7	861.6	862.7
15°	857.1	856.5	855.8	855.1	854.3	852.9	850.7	848.5	846.2	843.9	845.4
17.5°	837.2	836.3	835.4	834.5	833.5	832.0	829.8	827.6	825.4	823.0	824.0
20°	822.3	821.3	820.2	819.2	818.2	816.6	814.4	812.1	809.8	807.6	808.3
22.5°	805.6	804.6	803.5	802.5	801.4	799.8	797.6	795.4	793.1	790.9	791.4
25°	778.2	777.2	776.2	775.2	774.1	772.4	770.2	768.0	765.8	763.6	763.7
27.5°	749.0	748.0	747.0	746.0	745.0	743.3	740.8	738.5	736.1	733.7	733.8
30°	727.9	727.1	726.2	725.4	724.5	722.9	720.4	718.0	715.7	713.3	713.3
32.5°	706.9	705.8	704.6	703.5	702.4	700.8	699.0	697.1	695.3	693.5	692.5
35°	673.0	672.0	671.0	669.9	668.9	667.2	665.0	662.8	660.6	658.3	657.3
37.5°	638.3	637.0	635.7	634.4	633.1	631.4	629.0	626.8	624.5	622.3	621.1
40°	614.2	613.2	612.2	611.2	610.1	608.3	605.9	603.6	601.2	598.7	597.3
42.5°	590.1	589.0	587.7	586.5	585.4	583.6	581.2	578.9	576.4	574.0	572.6
45°	551.6	550.9	550.2	549.5	548.8	547.3	545.1	542.9	540.7	538.4	536.3
47.5°	513.3	512.3	511.4	510.4	509.4	507.8	505.7	503.6	501.5	499.4	497.4
50°	487.4	486.5	485.6	484.7	483.9	482.4	480.1	477.9	475.6	473.4	471.5
52.5°	460.1	459.5	459.0	458.4	457.8	456.3	453.9	451.6	449.2	446.9	445.2
55°	418.5	418.3	418.2	418.0	417.8	416.6	414.3	412.1	409.9	407.7	405.8
57.5°	378.9	378.3	377.7	377.2	376.6	375.4	373.5	371.8	370.0	368.2	366.6
60°	350.4	350.2	350.1	349.9	349.7	348.6	346.6	344.5	342.4	340.3	338.8
62.5°	325.1	324.6	324.2	323.8	323.3	322.0	319.9	317.9	315.8	313.8	312.3
65°	285.5	284.6	283.8	282.9	282.1	280.7	279.0	277.3	275.6	273.9	272.5
67.5°	243.5	242.8	242.0	241.3	240.4	239.4	238.1	236.8	235.5	234.3	233.1
70°	218.1	217.1	216.1	215.1	214.0	213.0	212.0	211.0	209.8	208.8	207.6
72.5°	191.6	190.8	190.1	189.2	188.5	187.5	186.4	185.2	184.0	182.9	181.8
75°	150.9	150.2	149.5	148.8	148.1	147.5	146.9	146.4	145.9	145.4	144.6
77.5°	114.8	114.4	114.0	113.7	113.3	112.8	112.2	111.6	110.9	110.3	109.8
80°	91.3	90.8	90.3	89.8	89.2	88.8	88.5	88.1	87.8	87.5	87.3
82.5°	68.4	68.3	68.2	68.1	68.0	67.9	67.9	67.8	67.7	67.7	67.3
85°	40.2	39.9	39.6	39.2	38.9	38.7	38.7	38.7	38.7	38.7	38.4
87.5°	16.3	16.2	16.2	16.1	16.0	16.2	16.5	16.8	17.1	17.4	17.4
90°	0.8	2.5	4.3	6.1	7.8	9.8	12.1	14.3	16.7	19.0	19.7
92.5°	14.6	14.2	13.7	13.2	12.7	13.3	15.0	16.8	18.5	20.2	21.3
95°	48.2	41.0	33.7	26.6	19.4	16.8	18.7	20.6	22.5	24.4	25.8
97.5°	96.7	93.6	90.4	87.2	83.9	75.9	63.3	50.7	38.1	25.4	26.9
100°	133.4	136.9	140.5	143.9	147.4	135.5	108.2	80.8	53.4	26.1	27.5
102.5°	175.1	177.6	180.2	182.7	185.2	171.6	141.7	111.7	81.8	51.9	47.6
105°	235.3	237.2	239.1	241.1	243.0	236.1	220.3	204.5	188.6	172.9	141.9
107.5°	298.7	300.3	301.8	303.4	304.9	306.9	309.4	311.9	314.4	316.9	294.2
110°	341.0	342.4	343.9	345.3	346.7	348.3	350.3	352.2	354.2	356.1	350.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	381.5	382.7	384.1	385.3	386.6	388.1	390.1	392.0	393.9	395.9	396.0
115°	441.3	442.4	443.4	444.5	445.6	446.9	448.5	450.0	451.6	453.2	454.9
117.5°	499.3	500.6	501.9	503.2	504.4	505.5	506.3	507.2	508.0	508.8	510.2
120°	535.3	536.8	538.5	540.0	541.6	542.7	543.2	543.7	544.2	544.7	546.1
122.5°	571.9	573.2	574.5	575.8	577.1	578.0	578.8	579.5	580.1	580.8	581.8
125°	622.2	623.5	624.9	626.3	627.7	628.8	629.5	630.2	630.9	631.6	632.0
127.5°	670.8	672.2	673.6	675.0	676.4	677.5	678.3	679.2	680.0	680.9	681.5
130°	701.0	702.5	703.9	705.3	706.7	707.7	708.4	709.1	709.8	710.5	711.2
132.5°	730.1	731.5	733.0	734.4	735.8	736.7	737.3	737.8	738.4	739.0	739.7
135°	774.5	775.6	776.6	777.7	778.7	779.6	780.3	781.0	781.7	782.4	782.9
137.5°	812.4	813.7	815.1	816.4	817.7	818.6	819.0	819.4	819.7	820.1	821.0
140°	837.7	838.7	839.8	840.8	841.9	842.6	843.2	843.7	844.2	844.8	845.5
142.5°	861.0	862.1	863.1	864.2	865.3	866.1	866.6	867.1	867.6	868.2	868.7
145°	893.7	894.9	896.2	897.4	898.7	899.4	899.8	900.1	900.5	900.8	901.2
147.5°	924.5	925.3	926.1	927.0	927.8	928.4	928.7	929.0	929.4	929.7	930.1
150°	943.4	944.0	944.5	945.0	945.5	946.0	946.3	946.7	947.1	947.5	947.8
152.5°	960.5	960.8	961.0	961.3	961.5	961.7	961.9	962.1	962.4	962.6	963.2
155°	984.5	984.2	983.8	983.5	983.1	983.0	983.2	983.4	983.5	983.7	984.6
157.5°	1003.1	1003.1	1003.1	1003.0	1003.0	1002.9	1002.7	1002.6	1002.4	1002.2	1003.3
160°	1014.5	1014.3	1014.2	1014.0	1013.8	1013.6	1013.5	1013.3	1013.1	1012.9	1014.0
162.5°	1025.2	1024.8	1024.3	1023.9	1023.4	1023.1	1022.9	1022.8	1022.6	1022.4	1023.6
165°	1038.2	1037.6	1037.1	1036.6	1036.1	1035.7	1035.6	1035.4	1035.2	1035.0	1036.4
167.5°	1048.3	1047.6	1046.9	1046.2	1045.5	1045.1	1045.1	1045.1	1045.1	1045.1	1046.5
170°	1054.0	1053.3	1052.6	1051.9	1051.2	1050.9	1050.9	1050.9	1050.9	1050.9	1052.3
172.5°	1057.7	1056.9	1056.1	1055.2	1054.4	1054.1	1054.2	1054.3	1054.5	1054.6	1056.0
175°	1062.7	1061.8	1061.0	1060.1	1059.1	1058.8	1058.9	1059.1	1059.3	1059.6	1060.8
177.5°	1063.9	1063.3	1062.6	1061.9	1061.2	1060.9	1061.0	1061.2	1061.3	1061.4	1062.6
180°	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7
2.5°	896.3	897.6	899.0	899.6	899.5	899.3	899.2	899.1
5°	891.5	893.2	894.9	895.6	895.2	894.9	894.6	894.2
7.5°	882.0	883.5	885.1	885.8	885.6	885.3	885.1	884.9
10°	873.3	874.9	876.5	877.1	876.8	876.4	876.1	875.7
12.5°	863.8	865.1	866.2	866.6	866.4	866.2	866.0	865.8
15°	846.8	848.1	849.5	849.6	848.6	847.6	846.6	845.6
17.5°	825.1	826.0	827.0	827.2	826.9	826.5	826.1	825.7
20°	809.0	809.7	810.3	810.4	809.9	809.4	808.9	808.4
22.5°	792.0	792.5	793.1	793.0	792.4	791.7	791.1	790.4
25°	763.9	764.1	764.2	764.1	763.6	763.1	762.4	761.9
27.5°	734.0	734.1	734.2	734.0	733.3	732.7	732.0	731.3
30°	713.3	713.3	713.3	712.7	711.4	710.2	709.0	707.8
32.5°	691.6	690.5	689.5	688.7	688.1	687.5	686.8	686.2
35°	656.2	655.2	654.2	653.3	652.4	651.6	650.7	649.8
37.5°	619.8	618.5	617.3	616.4	615.9	615.3	614.8	614.2
40°	596.0	594.6	593.3	592.2	591.5	590.9	590.2	589.5
42.5°	571.3	569.9	568.5	567.4	566.7	566.1	565.4	564.7
45°	534.3	532.2	530.2	528.7	527.9	526.9	526.1	525.2
47.5°	495.3	493.3	491.3	489.9	489.2	488.4	487.7	486.9
50°	469.7	467.8	465.9	464.4	463.3	462.3	461.3	460.3
52.5°	443.6	442.0	440.4	439.0	438.0	437.0	436.0	434.9
55°	403.8	402.0	400.1	398.7	397.9	397.0	396.2	395.3
57.5°	364.9	363.1	361.5	360.1	359.1	358.2	357.2	356.2
60°	337.3	335.8	334.2	333.0	332.1	331.2	330.4	329.5
62.5°	310.6	309.1	307.6	306.5	305.9	305.4	304.8	304.2
65°	271.0	269.7	268.3	267.4	266.9	266.4	265.9	265.3
67.5°	231.9	230.7	229.4	228.4	227.7	227.0	226.3	225.6
70°	206.4	205.3	204.1	203.0	202.2	201.3	200.5	199.5
72.5°	180.8	179.7	178.6	177.8	177.4	176.9	176.5	176.0
75°	143.7	142.9	142.0	141.3	140.8	140.3	139.8	139.3
77.5°	109.2	108.6	108.0	107.7	107.7	107.7	107.7	107.7
80°	87.1	86.8	86.7	86.6	86.6	86.6	86.6	86.6
82.5°	67.0	66.7	66.3	66.1	66.0	65.8	65.7	65.6
85°	38.0	37.7	37.3	37.2	37.2	37.2	37.2	37.2
87.5°	17.4	17.4	17.4	17.5	17.6	17.6	17.7	17.8
90°	20.4	21.0	21.7	22.3	22.6	23.0	23.3	23.7
92.5°	22.4	23.5	24.7	25.3	25.5	25.8	26.0	26.3
95°	27.0	28.2	29.4	30.0	30.0	30.0	30.0	30.0
97.5°	28.3	29.6	31.0	31.8	32.0	32.2	32.3	32.5
100°	28.9	30.3	31.7	32.4	32.6	32.8	33.0	33.1
102.5°	43.2	38.9	34.5	32.5	32.8	33.1	33.4	33.8
105°	110.8	79.8	48.7	33.3	33.7	34.0	34.4	34.7
107.5°	271.4	248.6	225.8	202.7	179.4	155.9	132.5	109.1
110°	344.5	338.7	333.0	317.5	292.4	267.3	242.2	217.1





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CATALOG NUMBER: S123DIP-S560D805U840-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	396.1	396.2	396.3	393.6	388.4	383.0	377.8	372.5
115°	456.7	458.5	460.2	461.4	462.1	462.8	463.5	464.2
117.5°	511.6	513.0	514.3	515.1	515.3	515.4	515.5	515.7
120°	547.5	549.0	550.4	551.1	551.1	551.1	551.1	551.1
122.5°	582.7	583.7	584.7	585.2	585.4	585.5	585.7	585.8
125°	632.3	632.7	633.0	633.4	633.7	634.1	634.4	634.8
127.5°	682.0	682.6	683.1	683.2	682.9	682.6	682.2	681.9
130°	712.0	712.7	713.4	713.6	713.2	712.9	712.5	712.2
132.5°	740.3	741.0	741.7	741.8	741.4	740.9	740.4	739.9
135°	783.5	784.0	784.5	784.5	784.0	783.5	782.9	782.4
137.5°	821.8	822.6	823.5	823.7	823.4	823.0	822.7	822.3
140°	846.2	846.9	847.6	847.8	847.4	847.1	846.7	846.4
142.5°	869.3	869.8	870.4	870.4	869.9	869.4	869.0	868.5
145°	901.5	901.9	902.2	902.4	902.4	902.4	902.4	902.4
147.5°	930.4	930.8	931.1	930.9	930.1	929.3	928.5	927.7
150°	948.1	948.5	948.8	948.8	948.2	947.7	947.2	946.6
152.5°	963.8	964.4	965.1	965.0	964.2	963.4	962.6	961.8
155°	985.5	986.3	987.2	987.1	986.1	985.0	984.0	982.9
157.5°	1004.3	1005.3	1006.4	1006.2	1004.9	1003.5	1002.2	1000.8
160°	1015.0	1016.1	1017.1	1017.0	1015.8	1014.6	1013.4	1012.2
162.5°	1024.8	1026.0	1027.1	1027.2	1026.1	1025.0	1024.0	1022.9
165°	1037.8	1039.3	1040.7	1040.8	1039.6	1038.2	1037.0	1035.8
167.5°	1047.9	1049.4	1050.8	1050.8	1049.4	1047.9	1046.5	1045.1
170°	1053.6	1055.0	1056.4	1056.4	1055.0	1053.6	1052.3	1050.9
172.5°	1057.4	1058.8	1060.3	1060.2	1058.6	1057.1	1055.5	1054.0
175°	1062.0	1063.2	1064.4	1064.3	1063.0	1061.6	1060.2	1058.7
177.5°	1063.7	1064.8	1065.9	1065.8	1064.4	1063.0	1061.6	1060.2
180°	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7

(END OF REPORT)