

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: P332299-840

Luminaire Tested: **S123RDIP-S560D1195U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332299-840
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: S123RDIP-S560D1195U840-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6520.0 lumens
Efficiency: N/A
Efficacy: 132.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

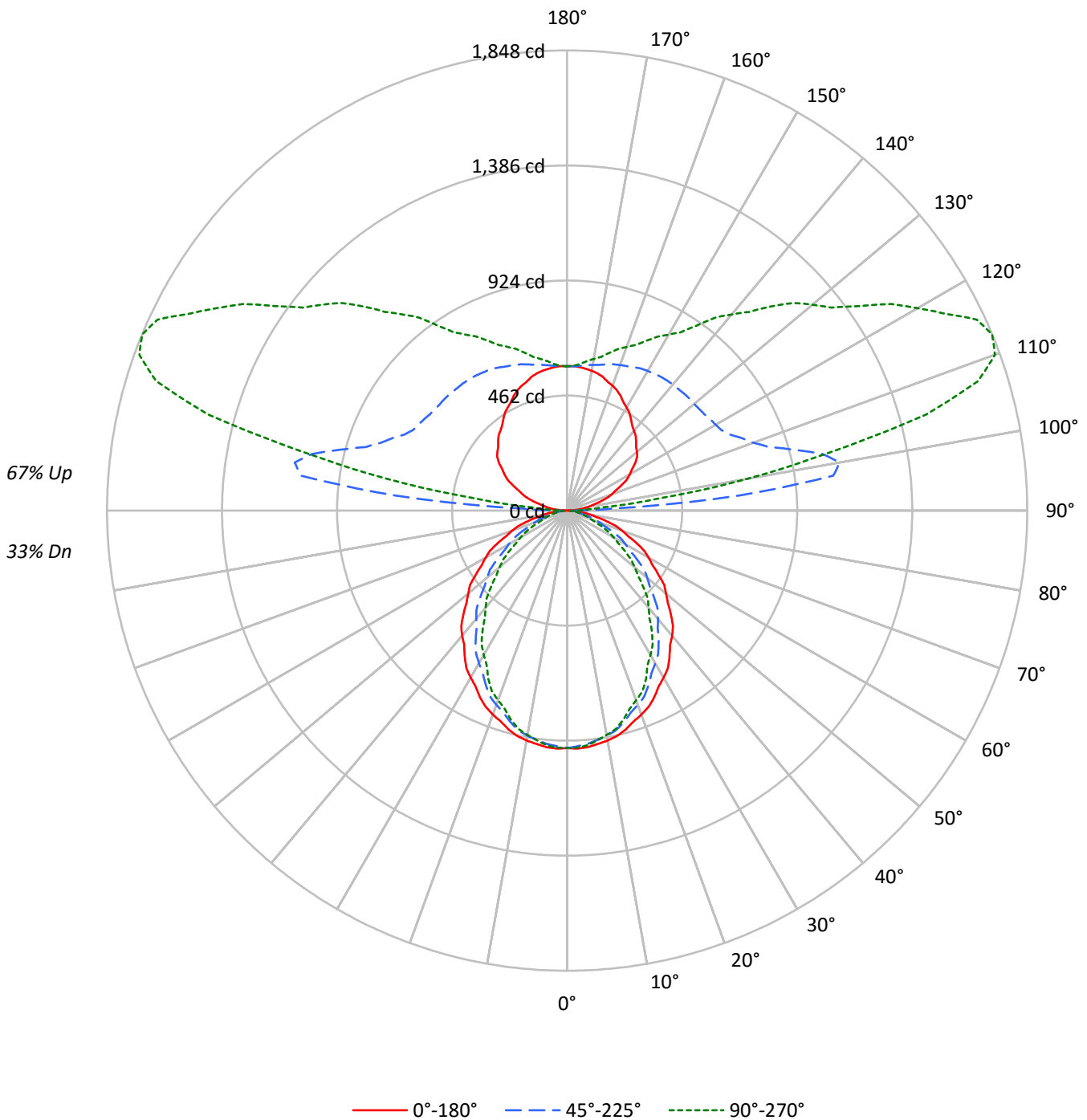
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	33
1	94	90	86	83	85	81	78	75	65	63	61	50	49	47	36	35	35	28
2	86	79	73	68	77	71	66	62	57	54	51	44	42	40	32	31	29	24
3	78	69	62	57	70	63	57	52	51	46	43	39	36	34	29	27	25	21
4	72	61	54	48	65	56	49	44	45	40	37	35	32	29	26	24	22	18
5	66	55	47	41	59	50	43	38	40	35	32	31	28	25	23	21	19	16
6	61	49	41	36	55	45	38	33	36	31	28	28	25	22	21	19	17	14
7	56	44	37	31	50	40	34	29	33	28	24	26	22	20	19	17	15	12
8	52	40	33	28	47	37	30	25	30	25	21	24	20	18	18	15	14	11
9	48	37	29	24	44	33	27	23	27	23	19	22	18	16	16	14	12	10
10	45	33	26	22	41	31	24	20	25	20	17	20	17	14	15	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10267	10267	10267
5°	10306	10164	10222
10°	10248	10037	10002
15°	10137	9802	9698
20°	9986	9507	9286
25°	9830	9178	8884
30°	9625	8797	8316
35°	9412	8418	7796
40°	9218	7967	7152
45°	8961	7524	6570
50°	8679	7021	5921
55°	8392	6446	5315
60°	8127	5828	4646
65°	7784	5163	3978
70°	7352	4334	3213
75°	6725	3410	3023
80°	5994	3025	2777
85°	5064	2668	2482



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.6	1.4
10°-20°	249.2	3.8
20°-30°	358.8	5.5
30°-40°	404.2	6.2
40°-50°	386.7	5.9
50°-60°	316.7	4.9
60°-70°	213.7	3.3
70°-80°	107.5	1.6
80°-90°	32.9	0.5
90°-100°	322.6	4.9
100°-110°	913.4	14.0
110°-120°	898.5	13.8
120°-130°	716.7	11.0
130°-140°	565.1	8.7
140°-150°	421.7	6.5
150°-160°	294.0	4.5
160°-170°	172.7	2.6
170°-180°	56.2	0.9
0°-30°	697.6	10.7
0°-40°	1101.8	16.9
0°-60°	1805.2	27.7
0°-90°	2159.2	33.1
90°-120°	2134.4	32.7
90°-150°	3837.9	58.9
90°-180°	4361.0	66.9
0°-180°	6520.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	954	954	954	954	954	
5°	954	950	941	947	946	90
15°	910	900	880	876	870	256
25°	828	808	773	757	748	381
35°	716	687	641	608	593	448
45°	589	552	494	452	432	454
55°	447	408	344	300	283	401
65°	306	262	203	166	156	302
75°	162	124	82	75	73	172
85°	41	25	22	20	20	46
90°	2	14	29	33	34	5
95°	40	130	696	203	136	43
105°	136	201	943	1650	1492	145
115°	240	300	722	1582	1815	238
125°	334	395	674	1220	1432	297
135°	392	468	664	1005	1160	303
145°	447	512	656	824	907	280
155°	508	548	635	722	752	234
165°	555	571	608	645	656	156
175°	578	579	583	591	590	55
180°	580	580	580	580	580	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8
2.5°	956.9	956.3	955.8	955.2	954.7	953.6	952.0	950.3	948.7	947.1	948.6
5°	953.8	953.0	952.1	951.3	950.4	949.0	946.8	944.8	942.7	940.7	942.2
7.5°	945.0	944.1	943.1	942.2	941.3	939.5	936.9	934.1	931.4	928.8	929.6
10°	937.6	936.3	935.1	933.9	932.8	930.6	927.6	924.4	921.3	918.3	918.4
12.5°	927.1	925.7	924.3	923.0	921.7	919.2	915.3	911.6	907.8	904.0	903.9
15°	909.7	907.9	905.9	904.0	902.2	898.8	894.0	889.2	884.3	879.6	878.7
17.5°	887.9	885.8	883.5	881.3	879.1	874.9	868.8	862.7	856.6	850.5	848.7
20°	871.8	869.1	866.4	863.5	860.8	856.2	849.6	843.1	836.6	830.0	827.8
22.5°	853.8	850.7	847.6	844.3	841.2	836.2	829.2	822.2	815.4	808.4	805.6
25°	827.7	823.4	819.1	814.9	810.5	804.5	796.5	788.6	780.7	772.8	769.2
27.5°	796.0	791.2	786.5	781.7	777.0	770.2	761.4	752.7	743.9	735.1	730.0
30°	774.4	769.2	764.1	758.9	753.8	746.3	736.7	727.1	717.4	707.8	702.0
32.5°	752.7	746.9	741.0	735.2	729.3	721.3	711.1	700.9	690.7	680.5	674.2
35°	716.3	710.1	704.0	697.8	691.6	683.2	672.5	661.9	651.2	640.6	633.1
37.5°	679.5	672.7	665.8	658.8	652.0	642.9	631.5	620.2	608.7	597.3	589.0
40°	656.0	648.4	640.9	633.3	625.7	615.8	603.7	591.5	579.3	567.0	558.1
42.5°	629.3	621.8	614.3	606.7	599.2	589.1	576.4	563.8	551.2	538.6	528.8
45°	588.7	581.0	573.2	565.5	557.7	547.2	534.0	520.8	507.6	494.3	484.5
47.5°	548.0	539.5	531.0	522.5	514.0	503.2	489.9	476.7	463.4	450.2	439.6
50°	518.3	510.2	502.1	494.0	485.9	474.9	461.0	447.2	433.2	419.3	408.6
52.5°	491.7	482.9	474.1	465.3	456.7	445.4	431.5	417.8	403.9	390.2	379.1
55°	447.2	438.7	430.3	421.8	413.4	401.9	387.3	372.7	358.1	343.5	333.5
57.5°	406.0	396.8	387.6	378.4	369.2	357.3	342.6	328.0	313.3	298.6	289.2
60°	377.5	368.1	358.6	349.1	339.7	327.8	313.6	299.3	285.0	270.7	261.5
62.5°	349.0	339.6	330.1	320.6	311.2	299.3	285.1	270.8	256.5	242.3	233.6
65°	305.6	296.1	286.7	277.2	267.7	256.3	242.9	229.5	216.1	202.7	194.3
67.5°	262.1	252.6	243.0	233.4	223.9	212.7	199.8	186.9	174.1	161.2	154.9
70°	233.6	224.3	215.1	205.8	196.5	185.8	173.8	161.8	149.8	137.7	131.7
72.5°	205.1	196.0	186.8	177.7	168.5	158.5	147.6	136.6	125.7	114.8	109.9
75°	161.7	153.4	145.2	136.9	128.7	119.8	110.4	100.9	91.5	82.0	80.3
77.5°	122.1	114.6	107.1	99.7	92.2	85.4	79.4	73.3	67.2	61.1	60.2
80°	96.7	89.7	82.6	75.5	68.5	63.2	59.6	55.9	52.3	48.8	48.2
82.5°	72.6	66.4	60.4	54.3	48.2	44.3	42.6	41.0	39.3	37.6	37.1
85°	41.0	37.3	33.4	29.7	25.9	23.7	23.2	22.7	22.2	21.6	21.3
87.5°	15.3	14.2	13.2	12.4	11.4	11.1	11.8	12.5	13.2	13.9	13.5
90°	2.3	4.6	7.1	10.6	12.9	15.2	18.8	22.3	25.9	29.3	28.2
92.5°	14.5	21.6	31.4	40.6	50.5	67.9	98.6	149.1	198.5	180.5	136.1
95°	39.9	43.4	56.4	76.2	106.7	152.5	252.3	427.1	619.6	695.8	564.3
97.5°	68.1	69.2	79.3	96.6	126.7	176.2	271.6	468.6	789.4	1078.2	1153.6
100°	86.8	88.0	96.2	112.6	140.8	186.5	268.7	442.3	750.9	1111.2	1342.3
102.5°	106.5	108.7	115.9	131.4	156.7	198.7	272.5	419.8	694.6	1050.2	1351.6
105°	136.1	139.7	146.6	160.8	183.0	219.4	282.8	403.6	625.4	943.3	1280.1
107.5°	167.5	171.1	177.8	191.7	212.6	246.4	302.1	402.4	581.3	849.0	1154.8
110°	190.1	193.6	199.4	212.4	232.3	265.2	318.0	407.2	564.3	795.5	1075.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	210.8	214.3	220.2	233.0	253.0	284.9	334.0	416.6	555.0	759.8	1007.4
115°	240.5	245.2	252.3	264.0	284.0	315.6	360.2	431.8	551.5	721.5	924.5
117.5°	270.3	275.7	281.6	292.4	314.7	344.1	388.1	451.9	553.6	699.0	874.5
120°	290.9	294.5	300.3	312.1	334.4	363.8	406.0	467.0	557.3	688.7	848.3
122.5°	308.8	312.4	318.2	330.8	352.2	383.4	424.7	481.1	563.9	682.2	826.7
125°	334.4	336.8	343.8	356.7	379.0	410.6	451.7	503.3	573.7	673.5	799.0
127.5°	353.9	357.4	366.1	379.2	403.8	435.6	475.1	521.7	585.0	669.2	774.7
130°	366.1	369.6	380.1	394.3	418.9	450.5	489.3	533.8	592.5	666.4	761.4
132.5°	375.5	379.9	391.4	408.3	432.9	463.7	501.5	545.1	598.1	665.5	749.3
135°	391.9	396.6	409.5	427.1	451.7	483.4	519.8	559.7	606.6	664.1	733.4
137.5°	407.4	412.3	425.0	443.7	468.2	497.5	532.4	570.5	612.3	661.5	719.4
140°	417.7	423.5	435.3	454.0	477.6	506.9	540.9	576.1	616.0	660.6	711.0
142.5°	429.0	433.9	446.6	463.4	487.0	514.4	547.4	581.7	618.8	658.7	703.5
145°	447.1	450.5	461.1	478.7	498.7	525.6	556.1	587.8	620.7	655.9	693.5
147.5°	465.3	467.5	477.8	493.0	512.3	535.2	563.2	591.6	620.7	651.5	683.6
150°	477.6	478.7	488.1	503.3	519.8	540.9	567.8	592.5	620.7	647.6	677.0
152.5°	489.8	490.0	499.4	512.7	527.3	547.4	570.7	594.4	617.8	643.0	669.5
155°	508.1	508.1	515.1	526.8	539.7	556.1	576.1	594.9	614.8	634.8	658.2
157.5°	522.6	523.5	529.2	539.5	550.5	563.2	579.2	596.0	610.9	627.5	645.5
160°	533.8	533.8	538.6	548.0	556.1	567.8	582.0	596.0	608.9	621.9	637.1
162.5°	542.3	542.3	546.0	553.6	560.9	570.7	582.9	595.1	605.2	616.2	628.6
165°	555.0	553.8	556.1	562.0	566.7	574.9	584.3	592.5	599.6	607.7	617.1
167.5°	564.6	563.2	564.3	568.9	572.1	577.2	584.1	590.7	593.9	599.4	606.1
170°	570.3	567.8	569.1	572.6	574.9	577.2	583.1	587.8	590.2	593.7	599.6
172.5°	574.0	572.6	572.8	575.4	576.8	578.2	583.1	586.9	587.3	589.0	593.0
175°	578.5	577.2	576.1	578.5	578.5	579.7	582.0	584.3	583.1	583.1	585.5
177.5°	580.6	579.7	578.7	579.7	579.7	579.7	580.6	582.4	580.6	579.7	580.6
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8
2.5°	950.1	951.6	953.1	953.7	953.4	953.1	952.9	952.6
5°	943.7	945.3	946.8	947.5	947.2	946.7	946.4	946.0
7.5°	930.5	931.3	932.2	932.3	931.7	931.2	930.6	930.0
10°	918.6	918.8	918.9	918.6	917.8	916.9	916.0	915.1
12.5°	903.8	903.7	903.6	903.0	902.0	901.0	900.1	899.1
15°	877.9	877.0	876.2	875.0	873.8	872.7	871.5	870.3
17.5°	846.9	845.1	843.1	841.4	839.6	837.8	836.0	834.2
20°	825.6	823.3	821.1	819.0	816.9	814.9	812.7	810.7
22.5°	802.8	800.0	797.3	794.9	792.9	791.0	789.1	787.2
25°	765.6	761.9	758.4	755.6	753.8	751.8	749.9	748.0
27.5°	725.0	720.0	715.0	711.0	708.1	705.3	702.4	699.4
30°	696.1	690.2	684.5	680.1	677.4	674.7	671.9	669.1
32.5°	667.8	661.4	655.0	650.4	647.5	644.6	641.7	638.8
35°	625.7	618.3	611.0	605.7	602.6	599.6	596.4	593.3
37.5°	580.6	572.2	563.8	557.7	553.9	550.1	546.2	542.4
40°	549.2	540.2	531.3	524.8	520.9	516.9	513.0	509.0
42.5°	519.1	509.3	499.5	492.8	489.3	485.7	482.2	478.7
45°	474.7	464.9	455.1	448.2	444.0	439.9	435.8	431.6
47.5°	428.9	418.3	407.6	400.4	396.8	393.0	389.4	385.7
50°	398.0	387.3	376.7	369.3	365.4	361.4	357.5	353.6
52.5°	368.1	357.0	345.9	338.6	335.1	331.5	328.0	324.5
55°	323.6	313.6	303.6	296.9	293.5	290.0	286.6	283.2
57.5°	279.7	270.3	260.9	254.8	251.9	248.9	246.0	243.1
60°	252.2	242.9	233.6	227.5	224.6	221.7	218.7	215.8
62.5°	224.8	216.1	207.3	201.5	198.4	195.3	192.3	189.2
65°	185.8	177.4	169.0	163.8	162.0	160.1	158.1	156.2
67.5°	148.7	142.3	136.0	131.9	129.9	127.8	125.8	123.8
70°	125.6	119.7	113.6	109.7	107.8	105.9	104.0	102.1
72.5°	104.9	100.1	95.1	92.3	91.5	90.7	89.9	89.1
75°	78.6	76.9	75.1	74.1	73.7	73.4	73.0	72.7
77.5°	59.3	58.4	57.4	56.8	56.5	56.0	55.7	55.3
80°	47.7	47.2	46.7	46.3	45.9	45.5	45.2	44.8
82.5°	36.6	36.1	35.5	35.2	35.1	35.1	35.0	34.9
85°	21.0	20.6	20.3	20.1	20.1	20.1	20.1	20.1
87.5°	13.6	13.7	13.8	14.1	13.8	13.9	13.9	13.6
90°	29.3	30.5	31.7	34.0	32.8	34.0	35.2	34.0
92.5°	98.8	78.4	69.2	63.1	61.0	57.5	58.7	56.6
95°	422.4	286.3	224.1	181.9	159.6	149.1	140.8	136.1
97.5°	1052.9	843.3	692.1	551.7	465.1	412.3	380.6	370.5
100°	1383.3	1288.3	1151.0	984.4	865.9	780.2	734.5	735.7
102.5°	1493.2	1490.1	1410.1	1304.4	1212.2	1144.5	1106.2	1079.2
105°	1525.3	1642.6	1665.0	1634.5	1580.4	1535.9	1498.3	1492.5
107.5°	1432.8	1623.4	1726.2	1768.0	1768.9	1753.8	1741.2	1730.4
110°	1344.6	1560.5	1708.4	1790.5	1823.3	1832.7	1830.4	1828.1



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CATALOG NUMBER: S123RDIP-S560D1195U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1257.3	1477.9	1643.6	1749.2	1809.3	1838.4	1847.2	1847.8
115°	1141.7	1345.7	1518.2	1646.2	1734.1	1785.7	1809.3	1815.1
117.5°	1057.8	1234.1	1389.0	1518.7	1610.5	1669.6	1703.4	1711.4
120°	1013.7	1172.2	1312.9	1431.5	1524.1	1589.8	1618.0	1625.1
122.5°	979.0	1122.4	1252.8	1362.9	1445.3	1504.4	1535.4	1544.3
125°	932.8	1060.7	1173.3	1267.2	1342.3	1393.9	1423.2	1431.5
127.5°	892.4	1006.4	1108.0	1193.5	1260.4	1304.4	1331.0	1338.5
130°	867.1	972.7	1067.7	1147.5	1209.7	1251.9	1276.6	1286.0
132.5°	843.6	940.8	1029.3	1105.3	1163.7	1205.9	1227.8	1234.4
135°	811.9	895.2	971.5	1038.3	1095.9	1131.0	1152.2	1160.4
137.5°	783.0	851.3	917.1	975.0	1023.4	1059.0	1076.8	1082.3
140°	766.2	826.0	882.3	932.8	977.3	1010.3	1029.0	1027.8
142.5°	750.2	801.6	850.4	894.3	932.3	961.4	978.3	977.1
145°	730.9	769.7	807.3	841.2	870.6	895.2	904.6	907.0
147.5°	715.3	746.0	776.3	800.4	822.7	839.4	848.3	849.2
150°	704.0	730.9	755.6	777.9	795.5	808.4	815.5	815.5
152.5°	693.7	716.9	738.7	757.3	771.1	783.0	787.3	787.3
155°	678.1	696.9	714.6	728.6	739.2	748.6	750.9	752.0
157.5°	661.8	677.5	691.1	702.1	711.2	718.3	720.1	719.9
160°	652.4	665.3	677.0	685.2	693.5	700.4	700.4	699.3
162.5°	641.1	652.2	662.9	670.1	675.6	681.7	681.7	680.5
165°	626.5	633.6	641.8	647.6	652.4	657.0	655.9	655.9
167.5°	613.9	619.2	624.0	628.2	630.3	633.6	632.4	632.4
170°	605.4	608.9	613.6	616.0	617.1	619.6	618.3	618.3
172.5°	597.9	600.5	604.3	605.6	605.9	608.2	606.1	605.2
175°	587.8	589.0	591.4	591.4	591.4	592.5	591.4	590.2
177.5°	581.5	582.4	583.4	583.4	582.4	583.4	581.5	581.5
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7

(END OF REPORT)