

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: P332287-840

Luminaire Tested: **S123RDIP-S560D805U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332287-840
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-S560D805U840-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5092.2 lumens
Efficiency: N/A
Efficacy: 132.6 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: General Diffuse

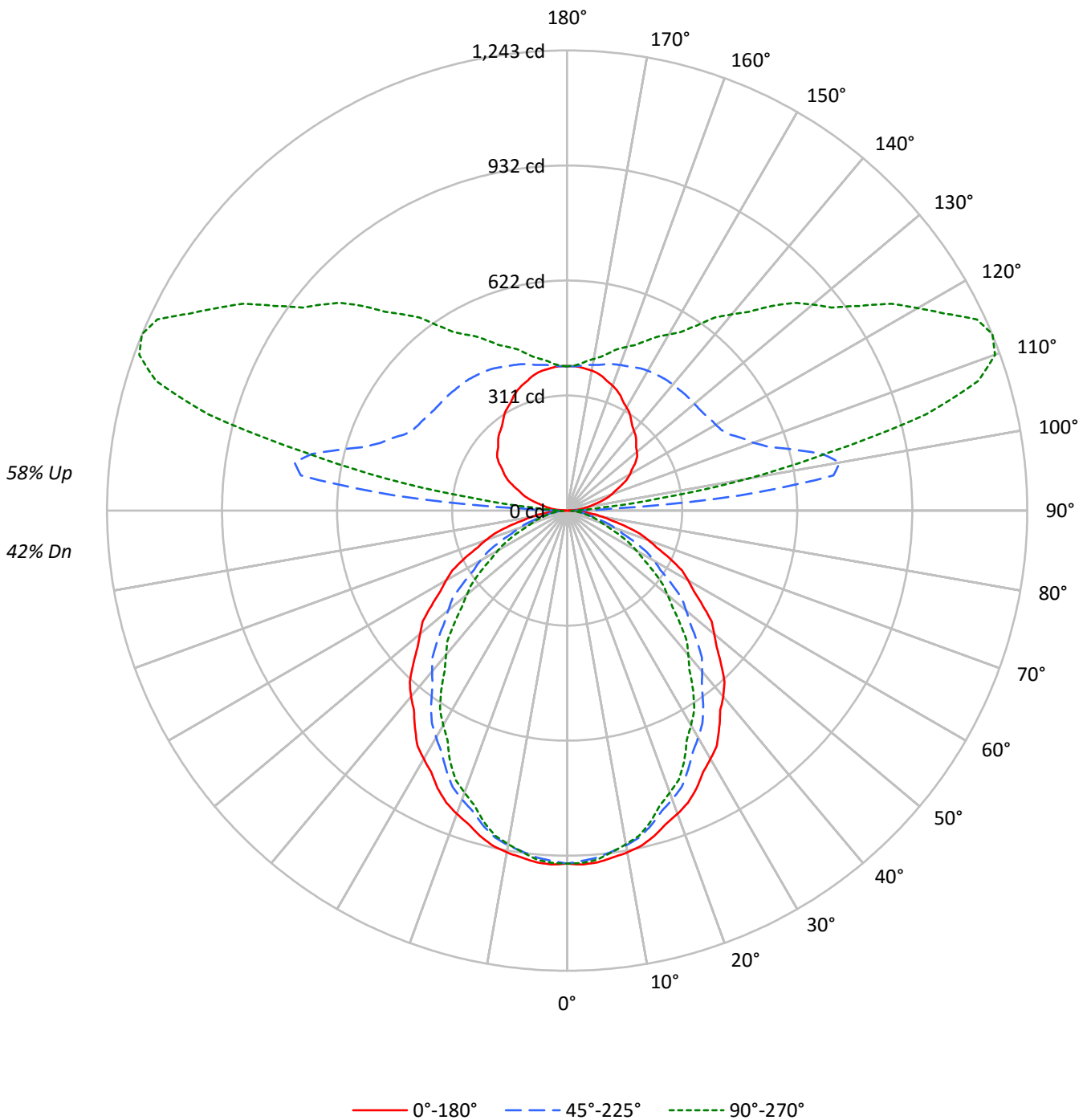
Input Watts (W): 38.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332287-840

CATALOG NUMBER: S123RDIP-S560D805U840-4F0-1E-UDD-F4

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	85	88	84	81	78	70	67	65	56	55	53	44	43	42	36
2	88	81	75	70	80	74	69	65	61	58	55	50	47	45	39	37	36	31
3	80	71	64	58	73	65	59	54	54	50	46	44	41	38	35	33	31	26
4	74	63	55	50	67	58	51	46	48	43	40	39	36	33	31	29	27	23
5	68	56	48	43	62	52	45	40	43	38	34	36	32	29	28	26	23	20
6	62	51	43	37	57	47	40	35	39	34	30	32	28	25	26	23	21	18
7	58	46	38	32	53	42	35	30	36	30	26	29	25	22	23	21	18	16
8	53	41	34	29	49	38	32	27	32	27	23	27	23	20	22	19	17	14
9	50	38	31	26	45	35	29	24	30	25	21	25	21	18	20	17	15	13
10	46	35	28	23	43	32	26	22	27	22	19	23	19	16	19	16	14	12

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



TEST NUMBER: P332287-840

CATALOG NUMBER: S123RDIP-S560D805U840-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.6	1.8
10°-20°	249.2	4.9
20°-30°	358.8	7.0
30°-40°	404.2	7.9
40°-50°	386.7	7.6
50°-60°	316.7	6.2
60°-70°	213.7	4.2
70°-80°	107.5	2.1
80°-90°	31.4	0.6
90°-100°	217.1	4.3
100°-110°	614.6	12.1
110°-120°	604.6	11.9
120°-130°	482.3	9.5
130°-140°	380.2	7.5
140°-150°	283.8	5.6
150°-160°	197.8	3.9
160°-170°	116.2	2.3
170°-180°	37.8	0.7
0°-30°	697.6	13.7
0°-40°	1101.8	21.6
0°-60°	1805.2	35.5
0°-90°	2157.8	42.4
90°-120°	1436.3	28.2
90°-150°	2582.6	50.7
90°-180°	2934.0	57.6
0°-180°	5092.2	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	10	20	22	23	4
95°	27	87	468	137	92	29
105°	92	135	635	1110	1004	97
115°	162	202	486	1065	1221	160
125°	225	266	453	821	963	200
135°	264	315	447	676	781	204
145°	301	345	441	555	610	189
155°	342	369	427	486	506	157
165°	373	384	409	434	441	105
175°	389	390	392	398	397	37
180°	390	390	390	390	390	



TEST NUMBER: P332287-840

CATALOG NUMBER: S123RDIP-S560D805U840-4F0-1E-UDD-F4

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°	15.1	13.9	12.7	11.7	10.5	10.1	10.6	11.0	11.5	12.0	11.7
90°	1.6	3.1	4.7	7.1	8.7	10.3	12.6	15.0	17.4	19.7	19.0
92.5°	9.8	14.5	21.2	27.4	33.9	45.6	66.3	100.3	133.6	121.4	91.6
95°	26.9	29.2	37.9	51.3	71.8	102.6	169.8	287.4	416.9	468.2	379.8
97.5°	45.7	46.6	53.4	65.0	85.2	118.6	182.7	315.4	531.2	725.6	776.3
100°	58.5	59.2	64.7	75.8	94.7	125.5	180.8	297.6	505.3	747.7	903.2
102.5°	71.7	73.1	78.0	88.5	105.5	133.7	183.3	282.5	467.4	706.6	909.6
105°	91.6	93.9	98.7	108.2	123.2	147.6	190.3	271.6	420.8	634.8	861.4
107.5°	112.7	115.1	119.7	129.0	143.1	165.8	203.2	270.8	391.1	571.3	777.1
110°	127.9	130.3	134.2	142.9	156.3	178.4	214.0	274.0	379.8	535.3	724.0



TEST NUMBER: P332287-840

CATALOG NUMBER: S123RDIP-S560D805U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	141.8	144.2	148.1	156.8	170.3	191.7	224.7	280.2	373.4	511.3	677.9
115°	161.9	165.0	169.8	177.6	191.1	212.4	242.4	290.5	371.1	485.5	622.2
117.5°	181.9	185.5	189.5	196.7	211.8	231.5	261.2	304.2	372.5	470.4	588.5
120°	195.8	198.1	202.1	210.1	225.0	244.8	273.2	314.3	375.1	463.4	570.9
122.5°	207.8	210.2	214.1	222.7	237.0	258.0	285.8	323.7	379.4	459.1	556.3
125°	225.0	226.6	231.4	240.0	255.0	276.3	304.0	338.7	386.1	453.2	537.7
127.5°	238.1	240.4	246.3	255.2	271.8	293.1	319.7	351.0	393.6	450.4	521.3
130°	246.3	248.7	255.8	265.3	281.9	303.2	329.2	359.2	398.7	448.5	512.4
132.5°	252.7	255.7	263.4	274.8	291.3	312.0	337.4	366.8	402.5	447.8	504.2
135°	263.7	266.9	275.6	287.4	304.0	325.3	349.7	376.6	408.2	446.9	493.4
137.5°	274.1	277.4	286.0	298.6	315.0	334.8	358.3	383.8	412.0	445.1	484.1
140°	281.0	285.0	293.0	305.6	321.3	341.0	364.0	387.7	414.5	444.5	478.5
142.5°	288.6	292.0	300.5	311.8	327.7	346.1	368.4	391.4	416.4	443.2	473.4
145°	300.8	303.2	310.3	322.1	335.6	353.8	374.3	395.6	417.7	441.3	466.7
147.5°	313.2	314.6	321.5	331.7	344.7	360.2	379.0	398.1	417.7	438.4	460.0
150°	321.3	322.1	328.4	338.7	349.7	364.0	382.1	398.7	417.7	435.9	455.6
152.5°	329.5	329.7	336.0	345.1	354.8	368.4	384.1	400.0	415.8	432.6	450.5
155°	341.8	341.8	346.6	354.5	363.1	374.3	387.7	400.3	413.7	427.2	442.9
157.5°	351.6	352.2	356.1	363.0	370.4	379.0	389.7	401.1	411.0	422.2	434.4
160°	359.2	359.2	362.4	368.7	374.3	382.1	391.6	401.1	409.8	418.5	428.7
162.5°	365.0	365.0	367.5	372.5	377.4	384.1	392.2	400.4	407.3	414.7	423.0
165°	373.4	372.6	374.3	378.2	381.3	386.9	393.1	398.7	403.4	409.0	415.3
167.5°	379.9	379.0	379.8	382.7	385.0	388.5	393.0	397.5	399.7	403.3	407.9
170°	383.7	382.1	382.9	385.3	386.9	388.5	392.4	395.6	397.2	399.5	403.4
172.5°	386.3	385.3	385.5	387.2	388.1	389.1	392.4	395.0	395.3	396.4	399.0
175°	389.2	388.5	387.7	389.2	389.2	390.0	391.6	393.1	392.4	392.4	393.9
177.5°	390.6	390.0	389.4	390.0	390.0	390.0	390.6	391.9	390.6	390.0	390.6
180°	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0



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CATALOG NUMBER: S123RDIP-S560D805U840-4F0-1E-UDD-F4

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°	11.7	11.7	11.7	11.9	11.6	11.6	11.7	11.4
90°	19.7	20.5	21.3	22.9	22.1	22.9	23.7	22.9
92.5°	66.4	52.7	46.6	42.5	41.1	38.7	39.5	38.1
95°	284.3	192.7	150.8	122.4	107.3	100.3	94.7	91.6
97.5°	708.5	567.5	465.6	371.2	313.0	277.4	256.1	249.3
100°	930.9	866.9	774.6	662.4	582.7	525.0	494.2	495.0
102.5°	1004.7	1002.7	948.9	877.8	815.8	770.1	744.4	726.2
105°	1026.4	1105.3	1120.3	1099.8	1063.5	1033.5	1008.2	1004.3
107.5°	964.2	1092.4	1161.5	1189.6	1190.3	1180.2	1171.6	1164.4
110°	904.8	1050.1	1149.5	1204.9	1226.9	1233.2	1231.6	1230.1



TEST NUMBER: P332287-840

CATALOG NUMBER: S123RDIP-S560D805U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	846.1	994.5	1106.0	1177.0	1217.5	1237.1	1243.0	1243.3
115°	768.2	905.5	1021.7	1107.7	1166.9	1201.6	1217.5	1221.4
117.5°	711.9	830.4	934.6	1022.0	1083.7	1123.5	1146.2	1151.7
120°	682.2	788.7	883.5	963.2	1025.6	1069.9	1088.7	1093.5
122.5°	658.8	755.3	843.0	917.2	972.5	1012.3	1033.2	1039.2
125°	627.6	713.8	789.5	852.7	903.2	938.0	957.7	963.2
127.5°	600.6	677.2	745.7	803.1	848.1	877.8	895.6	900.7
130°	583.5	654.5	718.5	772.1	814.1	842.4	859.0	865.4
132.5°	567.6	633.1	692.6	743.8	783.0	811.5	826.2	830.6
135°	546.3	602.4	653.7	698.7	737.4	761.1	775.3	780.8
137.5°	526.9	572.9	617.1	656.1	688.6	712.7	724.7	728.3
140°	515.5	555.8	593.7	627.6	657.7	679.7	692.5	691.7
142.5°	504.8	539.4	572.3	601.8	627.3	646.9	658.3	657.5
145°	491.9	518.0	543.2	566.1	585.8	602.4	608.7	610.3
147.5°	481.3	502.0	522.4	538.7	553.6	564.8	570.9	571.5
150°	473.7	491.9	508.5	523.4	535.3	544.0	548.8	548.8
152.5°	466.8	482.4	497.1	509.6	518.9	526.9	529.8	529.8
155°	456.4	469.0	480.8	490.3	497.4	503.7	505.3	506.0
157.5°	445.2	455.9	465.0	472.4	478.6	483.3	484.6	484.4
160°	439.0	447.7	455.6	461.1	466.7	471.3	471.3	470.6
162.5°	431.4	438.8	446.1	451.0	454.6	458.7	458.7	458.0
165°	421.6	426.4	431.9	435.9	439.0	442.1	441.3	441.3
167.5°	413.0	416.7	419.9	422.7	424.1	426.4	425.6	425.6
170°	407.4	409.8	412.9	414.5	415.3	416.9	416.1	416.1
172.5°	402.3	404.0	406.6	407.6	407.7	409.3	407.9	407.3
175°	395.6	396.4	397.9	397.9	397.9	398.7	397.9	397.2
177.5°	391.3	391.9	392.5	392.5	391.9	392.5	391.3	391.3
180°	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0

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