

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: P332281-840

Luminaire Tested: **S123RDIP-S560D585U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332281-840  
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-S560D585U840-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4297.7 lumens  
Efficiency: N/A  
Efficacy: 131.0 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: General Diffuse

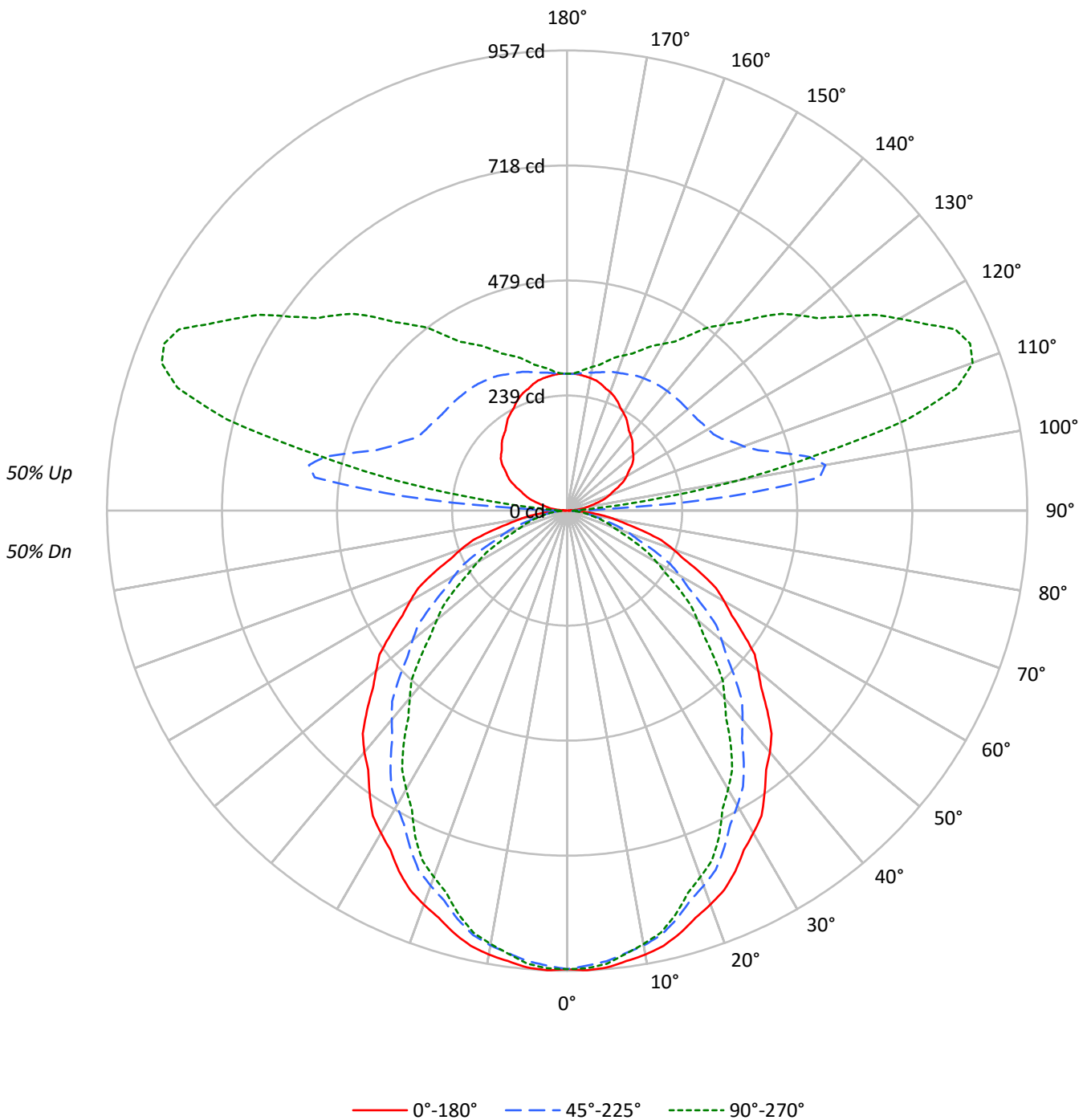
Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83		69	69	69		56	56	56	50
1	98	94	90	87	90	87	84	81	74	71	69		61	60	58		50	49	48	43
2	90	82	76	71	83	76	71	67	65	61	58		54	52	49		45	43	41	36
3	82	73	66	60	75	67	61	56	58	53	49		48	45	42		40	37	35	31
4	75	65	57	51	69	60	53	48	51	46	42		43	39	36		36	33	31	27
5	69	58	50	44	64	54	47	41	46	41	36		39	35	32		32	29	27	24
6	64	52	44	38	59	48	41	36	42	36	32		35	31	28		29	26	24	21
7	59	47	39	34	54	44	37	32	38	32	28		32	28	25		27	24	21	19
8	55	43	35	30	51	40	33	28	34	29	25		30	25	22		25	22	19	17
9	51	39	32	27	47	36	30	25	32	26	23		27	23	20		23	20	17	15
10	48	36	29	24	44	34	27	23	29	24	20		25	21	18		21	18	16	14

**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	2.1
10°-20°	249.2	5.8
20°-30°	358.8	8.3
30°-40°	404.2	9.4
40°-50°	386.7	9.0
50°-60°	316.7	7.4
60°-70°	213.7	5.0
70°-80°	107.5	2.5
80°-90°	30.6	0.7
90°-100°	158.3	3.7
100°-110°	448.4	10.4
110°-120°	441.1	10.3
120°-130°	351.8	8.2
130°-140°	277.4	6.5
140°-150°	207.0	4.8
150°-160°	144.3	3.4
160°-170°	84.8	2.0
170°-180°	27.6	0.6
0°-30°	697.6	16.2
0°-40°	1101.8	25.6
0°-60°	1805.2	42.0
0°-90°	2157.0	50.2
90°-120°	1047.8	24.4
90°-150°	1884.1	43.8
90°-180°	2141.0	49.8
0°-180°	4297.7	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°	1	7	14	16	17	3
95°	20	64	342	100	67	21
105°	67	99	463	810	733	71
115°	118	147	354	777	891	117
125°	164	194	331	599	703	146
135°	192	230	326	493	570	149
145°	219	251	322	405	445	138
155°	249	269	312	354	369	115
165°	272	280	298	316	322	77
175°	284	284	286	290	290	27
180°	285	285	285	285	285	



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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°	15.0	13.8	12.5	11.3	10.1	9.5	9.9	10.2	10.6	10.9	10.7
90°	1.1	2.3	3.4	5.2	6.4	7.5	9.2	10.9	12.6	14.4	13.8
92.5°	7.2	10.6	15.5	19.9	24.7	33.3	48.4	73.1	97.5	88.6	66.9
95°	19.6	21.3	27.7	37.5	52.4	74.8	123.8	209.6	304.2	341.5	277.0
97.5°	33.4	34.0	39.0	47.5	62.2	86.5	133.3	230.0	387.5	529.4	566.3
100°	42.6	43.2	47.3	55.3	69.1	91.6	131.9	217.1	368.6	545.4	658.9
102.5°	52.3	53.3	57.0	64.5	77.0	97.6	133.7	206.1	341.0	515.5	663.6
105°	66.9	68.6	72.0	78.9	89.9	107.8	138.9	198.1	307.0	463.1	628.4
107.5°	82.2	84.0	87.4	94.1	104.4	121.0	148.2	197.5	285.4	416.8	566.9
110°	93.3	95.0	98.0	104.2	114.0	130.2	156.1	199.9	277.0	390.5	528.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	103.4	105.2	108.1	114.4	124.2	139.9	163.9	204.5	272.5	373.0	494.5
115°	118.1	120.4	123.8	129.6	139.4	154.9	176.8	212.0	270.7	354.3	453.9
117.5°	132.7	135.3	138.3	143.5	154.5	168.8	190.6	221.9	271.8	343.2	429.4
120°	142.9	144.6	147.4	153.2	164.2	178.5	199.2	229.2	273.6	338.1	416.5
122.5°	151.6	153.3	156.2	162.4	172.9	188.2	208.5	236.2	276.8	334.9	405.9
125°	164.2	165.3	168.7	175.1	186.0	201.6	221.8	247.1	281.7	330.6	392.2
127.5°	173.7	175.4	179.8	186.1	198.2	213.8	233.3	256.1	287.2	328.5	380.3
130°	179.8	181.5	186.6	193.5	205.6	221.2	240.1	262.1	290.8	327.2	373.9
132.5°	184.3	186.5	192.2	200.5	212.6	227.6	246.2	267.6	293.7	326.7	367.8
135°	192.4	194.7	201.1	209.6	221.8	237.3	255.2	274.8	297.8	326.0	360.0
137.5°	200.0	202.4	208.6	217.8	229.8	244.2	261.4	280.0	300.5	324.8	353.3
140°	205.1	207.9	213.7	222.9	234.4	248.8	265.5	282.9	302.4	324.3	349.0
142.5°	210.6	213.0	219.2	227.5	239.0	252.6	268.7	285.6	303.8	323.4	345.4
145°	219.4	221.2	226.4	235.0	244.8	258.0	273.1	288.6	304.7	321.9	340.4
147.5°	228.4	229.4	234.6	242.1	251.5	262.8	276.5	290.4	304.7	319.8	335.6
150°	234.4	235.0	239.6	247.1	255.2	265.5	278.8	290.8	304.7	317.9	332.3
152.5°	240.4	240.5	245.2	251.8	258.8	268.7	280.1	291.9	303.4	315.7	328.7
155°	249.4	249.4	252.9	258.6	265.0	273.1	282.9	292.1	301.8	311.6	323.2
157.5°	256.5	257.0	259.7	264.9	270.2	276.5	284.3	292.7	299.8	308.0	316.9
160°	262.1	262.1	264.4	269.0	273.1	278.8	285.7	292.7	298.9	305.3	312.8
162.5°	266.2	266.2	268.1	271.8	275.3	280.1	286.2	292.2	297.1	302.6	308.6
165°	272.5	271.9	273.1	275.9	278.2	282.3	286.8	290.8	294.4	298.4	303.0
167.5°	277.2	276.5	277.0	279.2	280.8	283.4	286.7	289.9	291.5	294.2	297.6
170°	279.9	278.8	279.3	281.0	282.3	283.4	286.3	288.6	289.7	291.4	294.4
172.5°	281.8	281.0	281.2	282.5	283.2	283.9	286.3	288.1	288.3	289.1	291.1
175°	284.0	283.4	282.9	284.0	284.0	284.6	285.7	286.8	286.3	286.3	287.4
177.5°	285.0	284.6	284.1	284.6	284.6	284.6	285.0	285.9	285.0	284.6	285.0
180°	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6



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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°	10.6	10.6	10.6	10.7	10.4	10.4	10.4	10.1
90°	14.4	14.9	15.6	16.7	16.2	16.7	17.3	16.7
92.5°	48.5	38.5	34.0	31.0	30.0	28.2	28.8	27.8
95°	207.3	140.6	110.0	89.3	78.4	73.1	69.1	66.9
97.5°	516.9	414.0	339.7	270.8	228.3	202.4	186.8	181.9
100°	679.1	632.5	565.0	483.2	425.1	383.0	360.6	361.1
102.5°	733.1	731.5	692.3	640.4	595.1	561.8	543.0	529.8
105°	748.8	806.4	817.4	802.3	775.9	754.0	735.6	732.7
107.5°	703.4	797.0	847.4	867.9	868.4	861.0	854.7	849.5
110°	660.0	766.1	838.7	879.0	895.1	899.7	898.6	897.4





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CATALOG NUMBER: S123RDIP-S560D585U840-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	617.2	725.5	806.9	858.7	888.2	902.5	906.9	907.1
115°	560.5	660.7	745.4	808.1	851.3	876.7	888.2	891.1
117.5°	519.3	605.8	681.9	745.6	790.6	819.6	836.3	840.1
120°	497.7	575.4	644.5	702.8	748.2	780.5	794.3	797.8
122.5°	480.6	551.0	615.0	669.0	709.5	738.5	753.8	758.1
125°	457.9	520.7	576.0	622.1	658.9	684.3	698.7	702.8
127.5°	438.1	494.1	544.0	585.9	618.7	640.4	653.4	657.1
130°	425.7	477.5	524.1	563.3	593.9	614.6	626.7	631.3
132.5°	414.1	461.8	505.2	542.6	571.3	592.0	602.7	605.9
135°	398.6	439.5	477.0	509.8	538.0	555.2	565.6	569.7
137.5°	384.5	418.0	450.2	478.7	502.4	519.9	528.7	531.3
140°	376.2	405.5	433.1	457.9	479.8	495.9	505.1	504.5
142.5°	368.3	393.5	417.5	439.0	457.7	472.0	480.3	479.7
145°	358.8	377.9	396.3	413.0	427.4	439.5	444.1	445.2
147.5°	351.1	366.2	381.1	392.9	403.8	412.0	416.5	416.9
150°	345.6	358.8	370.9	381.9	390.5	396.9	400.3	400.3
152.5°	340.5	351.9	362.6	371.7	378.5	384.5	386.5	386.5
155°	333.0	342.1	350.8	357.7	362.8	367.5	368.6	369.2
157.5°	324.9	332.5	339.3	344.7	349.2	352.6	353.6	353.5
160°	320.2	326.6	332.3	336.4	340.4	343.9	343.9	343.3
162.5°	314.8	320.1	325.5	329.0	331.6	334.7	334.7	334.1
165°	307.6	311.0	315.1	317.9	320.2	322.6	321.9	321.9
167.5°	301.3	304.0	306.3	308.4	309.4	311.0	310.4	310.4
170°	297.2	298.9	301.2	302.4	303.0	304.2	303.6	303.6
172.5°	293.6	294.8	296.6	297.3	297.4	298.6	297.6	297.1
175°	288.6	289.1	290.3	290.3	290.3	290.8	290.3	289.7
177.5°	285.5	285.9	286.4	286.4	285.9	286.4	285.5	285.5
180°	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6

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