

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: P332912-830

Luminaire Tested: **S124RDIP-S575D810U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332912-830
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: S124RDIP-S575D810U830-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4943.4 lumens
Efficiency: N/A
Efficacy: 128.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

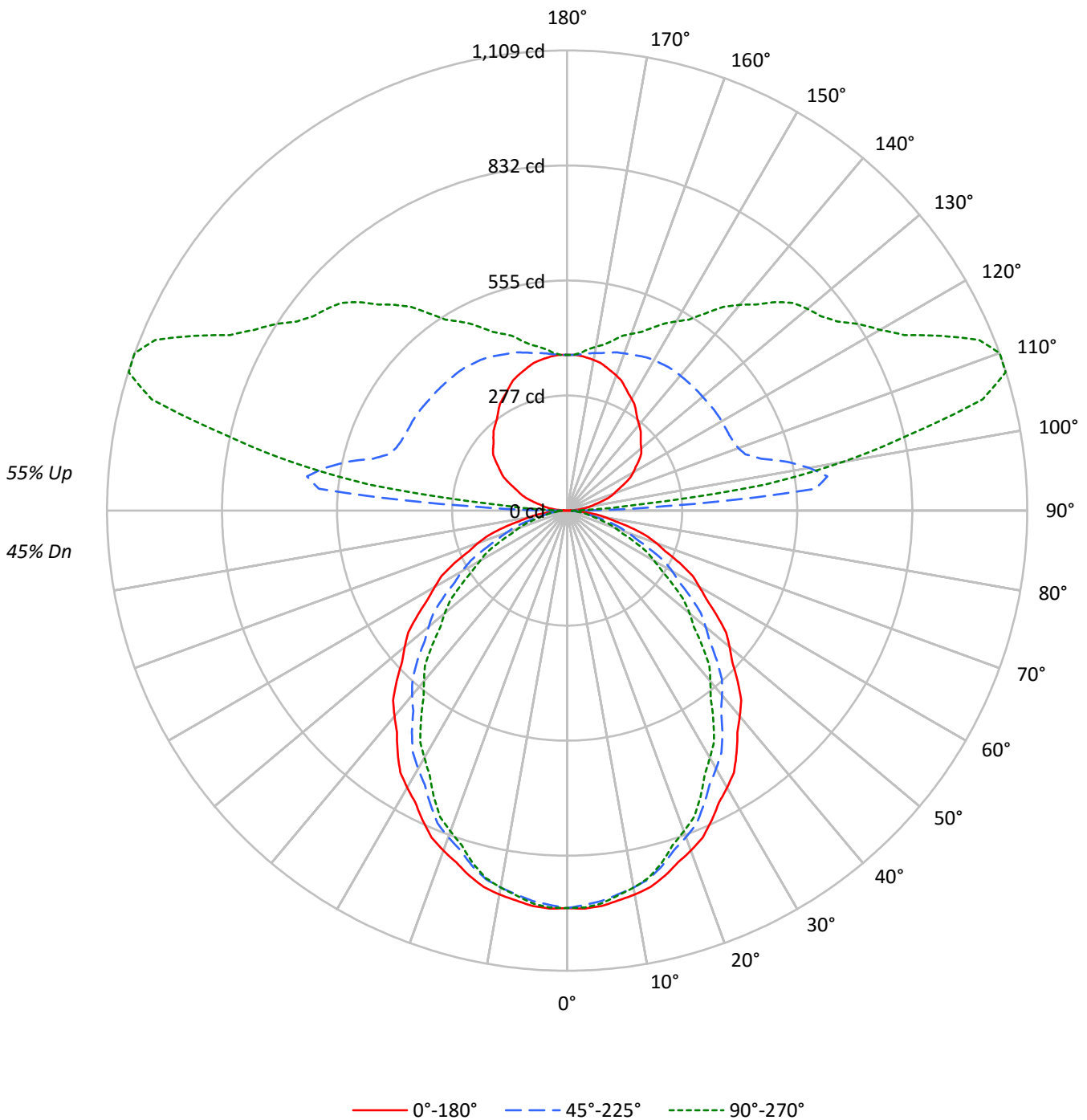
Input Watts (W): 38.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332912-830

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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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	45
1	97	93	89	86	89	85	82	79	71	69	67	58	56	55	46	45	44	38
2	88	81	75	70	81	75	70	65	62	59	55	51	48	46	41	39	37	32
3	81	72	64	59	74	66	60	55	55	51	47	45	42	39	36	34	32	28
4	74	63	56	50	68	58	52	47	49	44	40	40	37	34	32	30	28	24
5	68	57	49	43	62	52	45	40	44	39	35	36	32	29	29	26	24	21
6	63	51	43	37	57	47	40	35	40	34	30	33	29	26	27	24	21	18
7	58	46	38	33	53	42	36	31	36	31	27	30	26	23	24	21	19	16
8	54	42	34	29	49	39	32	27	33	28	24	27	23	20	22	19	17	15
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	21	18	16	13
10	47	35	28	23	43	32	26	22	28	23	19	23	19	17	19	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7733	7733	7733
5°	7750	7656	7703
10°	7702	7564	7564
15°	7614	7405	7350
20°	7491	7196	7064
25°	7337	6951	6774
30°	7185	6693	6413
35°	7019	6427	6050
40°	6817	6122	5658
45°	6632	5819	5259
50°	6420	5471	4835
55°	6194	5111	4376
60°	5945	4713	3907
65°	5717	4216	3446
70°	5384	3670	2924
75°	4966	3044	2380
80°	4328	2320	2180
85°	3668	2103	1973



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.0	1.8
10°-20°	250.9	5.1
20°-30°	362.3	7.3
30°-40°	410.7	8.3
40°-50°	396.6	8.0
50°-60°	329.8	6.7
60°-70°	227.7	4.6
70°-80°	115.4	2.3
80°-90°	31.7	0.6
90°-100°	270.9	5.5
100°-110°	563.9	11.4
110°-120°	505.1	10.2
120°-130°	424.9	8.6
130°-140°	354.3	7.2
140°-150°	270.6	5.5
150°-160°	190.2	3.8
160°-170°	111.9	2.3
170°-180°	36.4	0.7
0°-30°	703.2	14.2
0°-40°	1113.9	22.5
0°-60°	1840.3	37.2
0°-90°	2215.2	44.8
90°-120°	1340.0	27.1
90°-150°	2389.7	48.3
90°-180°	2728.0	55.2
0°-180°	4943.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	958	958	958	958	958	
5°	956	953	945	952	951	91
15°	911	904	886	884	879	257
25°	824	810	780	768	760	379
35°	712	688	652	628	614	445
45°	581	553	510	475	461	448
55°	440	410	363	326	311	394
65°	299	267	221	190	180	295
75°	159	132	98	81	76	168
85°	40	26	23	21	21	45
90°	1	6	13	15	16	3
95°	24	77	601	297	180	27
105°	86	125	483	1041	1037	92
115°	152	191	431	828	996	151
125°	212	251	429	705	794	188
135°	251	299	425	626	710	194
145°	290	332	423	528	580	182
155°	329	356	411	466	486	152
165°	359	370	394	418	424	101
175°	374	375	378	383	382	36
180°	375	375	375	375	375	



TEST NUMBER: P332912-830

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	957.9	957.9	957.9	957.9	957.9	957.9	957.9	957.9	957.9	957.9	957.9
2.5°	960.3	959.7	959.2	958.7	958.2	957.2	955.7	954.3	952.8	951.4	952.8
5°	956.4	955.7	955.1	954.4	953.9	952.5	950.6	948.6	946.6	944.7	946.3
7.5°	947.7	947.1	946.4	945.7	945.0	943.4	940.8	938.3	935.8	933.2	934.2
10°	939.5	938.8	937.9	937.1	936.3	934.4	931.5	928.5	925.6	922.7	923.3
12.5°	929.0	928.0	927.1	926.1	925.2	923.0	919.5	916.1	912.7	909.2	909.6
15°	911.0	909.5	908.0	906.5	905.0	902.3	898.2	894.2	890.0	886.0	885.7
17.5°	889.1	886.9	884.9	882.7	880.6	877.1	872.2	867.3	862.4	857.5	856.7
20°	872.0	870.0	867.8	865.7	863.6	859.8	854.2	848.7	843.1	837.6	836.3
22.5°	853.3	850.9	848.6	846.1	843.8	839.6	833.7	827.7	821.8	815.9	813.9
25°	823.7	820.8	817.7	814.8	811.9	807.1	800.4	793.7	787.0	780.4	777.6
27.5°	792.6	788.9	785.2	781.6	777.8	772.4	765.3	758.2	751.0	743.9	740.5
30°	770.8	766.8	762.7	758.7	754.6	748.7	741.0	733.4	725.7	718.0	714.0
32.5°	748.0	743.4	738.8	734.1	729.6	723.3	715.4	707.5	699.6	691.6	686.9
35°	712.2	707.0	701.7	696.5	691.4	684.7	676.5	668.4	660.2	652.1	646.5
37.5°	673.9	668.5	663.2	657.8	652.3	645.2	636.1	627.1	618.1	609.1	602.9
40°	646.9	641.5	636.1	630.7	625.4	618.0	608.8	599.5	590.2	580.9	574.0
42.5°	621.0	615.5	609.8	604.2	598.5	590.9	581.2	571.5	561.8	552.1	545.2
45°	580.9	574.9	568.8	562.8	556.8	548.8	539.0	529.3	519.5	509.7	501.7
47.5°	539.4	533.2	526.9	520.7	514.4	506.2	496.1	486.0	475.8	465.6	457.3
50°	511.2	504.8	498.5	492.1	485.8	477.4	466.9	456.6	446.1	435.6	427.5
52.5°	482.5	476.3	470.0	463.8	457.5	449.1	438.4	427.7	417.0	406.3	398.0
55°	440.1	433.6	427.1	420.5	414.0	405.4	394.8	384.3	373.6	363.1	354.6
57.5°	398.1	391.3	384.6	377.8	371.0	362.4	351.9	341.5	331.1	320.7	312.1
60°	368.2	361.7	355.2	348.6	342.1	333.7	323.2	312.7	302.4	291.9	283.4
62.5°	341.2	334.4	327.6	320.8	314.1	305.4	294.6	284.0	273.2	262.6	254.8
65°	299.3	292.3	285.2	278.2	271.2	262.5	252.0	241.7	231.2	220.7	213.8
67.5°	255.7	248.9	242.2	235.5	228.8	220.6	210.9	201.2	191.6	181.9	175.9
70°	228.1	221.2	214.4	207.5	200.8	192.7	183.3	174.1	164.8	155.5	150.1
72.5°	198.8	192.6	186.3	180.2	174.0	166.5	157.8	149.0	140.2	131.4	126.9
75°	159.2	153.2	147.1	141.1	135.1	128.2	120.6	112.8	105.2	97.6	93.8
77.5°	118.9	113.9	108.8	103.6	98.5	92.8	86.6	80.5	74.3	68.1	65.9
80°	93.1	88.4	83.7	79.0	74.3	69.5	64.6	59.7	54.8	49.9	49.4
82.5°	70.9	66.5	62.2	57.9	53.5	50.0	47.1	44.3	41.6	38.7	38.4
85°	39.6	36.4	33.1	29.8	26.6	24.7	24.2	23.8	23.2	22.7	22.4
87.5°	13.7	12.9	12.3	11.4	10.5	9.9	10.7	10.6	10.7	10.8	10.6
90°	0.8	2.2	4.4	5.2	5.9	5.9	10.3	10.3	11.8	13.3	12.5
92.5°	8.4	12.3	19.1	28.2	38.9	54.2	91.7	148.8	204.6	233.8	194.7
95°	24.3	26.5	33.9	43.5	61.2	92.1	156.3	277.1	453.3	600.7	617.6
97.5°	43.6	43.6	50.0	58.8	74.0	99.9	149.3	249.1	424.2	632.6	775.9
100°	56.0	56.0	61.2	70.0	84.0	107.6	151.1	234.4	384.7	592.6	781.2
102.5°	67.8	69.0	73.5	81.8	95.2	117.6	156.9	230.3	358.2	542.4	737.0
105°	86.2	88.4	92.1	100.9	114.2	135.6	171.0	232.1	335.4	483.4	656.7
107.5°	106.6	108.0	111.7	121.1	133.8	155.0	187.4	243.1	331.2	450.4	591.8
110°	120.2	121.6	125.3	134.1	147.4	167.3	199.7	251.3	332.3	439.2	559.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	133.1	134.6	138.8	147.1	160.3	180.3	211.5	260.1	335.9	433.9	541.1
115°	151.8	154.0	159.2	166.5	180.6	200.5	230.0	274.2	342.7	431.1	524.0
117.5°	171.3	173.3	178.0	186.1	199.2	219.8	247.8	288.4	350.0	430.4	516.3
120°	184.3	185.7	190.9	199.0	211.5	232.1	260.1	298.5	355.2	430.4	512.2
122.5°	196.0	197.6	202.6	210.2	223.9	243.9	271.9	307.9	360.5	429.8	507.5
125°	211.5	214.4	218.9	227.0	241.0	261.6	288.1	322.1	368.5	429.0	499.6
127.5°	225.3	227.6	232.9	242.1	256.7	277.6	303.2	334.3	374.8	427.3	489.2
130°	232.9	235.8	241.8	252.8	266.8	288.1	313.2	342.0	379.6	426.7	482.8
132.5°	240.5	242.9	250.6	261.1	276.3	296.4	321.5	349.6	383.7	426.1	476.8
135°	251.3	254.3	261.6	274.2	289.6	308.8	333.1	359.7	389.8	425.3	468.0
137.5°	262.1	264.9	273.0	284.9	301.0	319.2	342.0	366.7	393.5	425.1	460.3
140°	269.8	271.9	280.0	292.6	308.0	325.7	347.9	371.5	396.5	424.5	456.2
142.5°	278.0	280.2	287.8	299.6	314.5	331.7	353.2	374.9	398.9	424.5	452.7
145°	289.6	291.8	299.3	309.5	323.6	339.8	358.9	378.8	400.2	423.0	446.6
147.5°	302.7	303.5	310.0	320.6	332.2	346.9	364.9	382.2	401.0	420.4	441.2
150°	311.0	311.8	317.6	326.5	337.5	351.6	367.8	384.0	401.0	418.6	437.1
152.5°	318.7	318.9	324.7	333.0	342.9	355.7	370.1	385.1	399.7	415.7	432.3
155°	329.4	330.2	334.6	342.0	350.1	361.1	373.6	386.2	397.9	411.2	425.3
157.5°	339.9	339.9	344.0	349.8	356.8	365.5	376.2	386.2	396.1	406.7	418.0
160°	346.4	346.4	349.3	354.5	360.4	368.5	377.3	386.2	394.3	403.1	412.7
162.5°	352.3	351.7	354.0	358.6	363.9	370.2	378.5	386.2	392.6	399.6	408.0
165°	358.9	358.9	360.4	364.1	367.8	372.2	378.8	384.7	389.2	394.3	400.2
167.5°	365.5	364.9	365.5	368.3	370.4	373.8	378.7	383.0	385.6	389.0	393.1
170°	368.5	367.8	368.5	370.7	372.2	374.4	378.1	381.7	383.2	385.4	388.4
172.5°	371.5	370.7	370.9	372.5	373.3	374.9	377.5	380.6	380.9	381.9	384.3
175°	374.4	373.6	373.6	374.4	375.1	375.1	376.6	378.8	378.1	378.1	379.6
177.5°	375.7	375.1	374.6	375.1	375.1	375.1	375.7	376.9	375.7	375.7	376.3
180°	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	957.9	957.9	957.9	957.9	957.9	957.9	957.9	957.9
2.5°	954.3	955.7	957.2	957.8	957.7	957.5	957.4	957.3
5°	947.9	949.6	951.2	951.9	951.5	951.2	950.8	950.6
7.5°	935.3	936.3	937.5	937.6	937.2	936.6	936.1	935.6
10°	924.0	924.6	925.3	925.3	924.6	924.0	923.3	922.7
12.5°	909.9	910.3	910.8	910.5	909.6	908.7	907.8	906.8
15°	885.3	885.0	884.7	884.0	882.8	881.7	880.5	879.4
17.5°	855.7	854.8	853.8	852.5	850.8	849.1	847.3	845.6
20°	835.0	833.7	832.4	830.7	828.6	826.4	824.3	822.2
22.5°	812.0	810.0	808.0	806.3	804.5	802.8	801.1	799.3
25°	774.9	772.0	769.3	767.1	765.4	763.8	762.2	760.5
27.5°	737.0	733.6	730.2	727.3	724.9	722.6	720.3	717.9
30°	709.9	705.8	701.7	698.4	695.8	693.1	690.6	688.0
32.5°	682.2	677.5	672.7	669.1	666.7	664.2	661.7	659.2
35°	640.9	635.4	629.9	625.7	622.7	619.7	616.8	613.9
37.5°	596.6	590.5	584.3	579.8	576.7	573.8	570.9	568.0
40°	567.2	560.3	553.5	548.7	545.6	542.7	539.8	536.9
42.5°	538.2	531.2	524.2	519.2	516.1	513.1	510.0	507.0
45°	493.8	485.8	477.8	472.3	469.4	466.5	463.5	460.6
47.5°	449.0	440.7	432.4	426.7	423.5	420.3	417.1	413.8
50°	419.3	411.2	403.0	397.5	394.4	391.2	388.1	385.0
52.5°	389.7	381.4	373.2	367.5	364.2	361.0	357.8	354.6
55°	346.1	337.6	329.1	323.4	320.3	317.2	314.1	310.9
57.5°	303.4	294.8	286.3	280.8	278.4	276.1	273.7	271.4
60°	274.9	266.5	258.0	252.5	249.9	247.2	244.7	242.0
62.5°	246.9	239.1	231.3	226.3	224.2	222.2	220.1	218.0
65°	206.8	199.7	192.7	188.2	186.3	184.4	182.4	180.4
67.5°	169.8	163.8	157.8	153.7	151.6	149.4	147.2	145.1
70°	144.8	139.4	133.9	130.4	128.8	127.2	125.5	123.9
72.5°	122.2	117.6	113.0	110.0	108.5	107.0	105.5	104.0
75°	90.0	86.3	82.6	80.2	79.2	78.2	77.3	76.3
77.5°	63.7	61.5	59.3	58.1	57.8	57.5	57.2	56.9
80°	48.9	48.4	47.9	47.6	47.4	47.2	47.1	46.9
82.5°	38.0	37.6	37.3	37.0	36.9	36.7	36.6	36.4
85°	22.1	21.8	21.4	21.3	21.3	21.3	21.3	21.3
87.5°	10.7	10.7	10.7	10.7	10.9	11.2	11.2	11.3
90°	13.3	14.0	14.7	14.7	15.5	16.2	15.5	15.5
92.5°	144.8	109.0	86.7	71.9	63.2	59.3	56.7	56.7
95°	546.1	431.9	333.1	261.6	225.6	202.6	189.5	179.8
97.5°	806.8	764.4	692.3	615.4	562.5	518.1	496.0	480.7
100°	888.8	903.5	867.4	812.9	748.8	703.8	681.7	675.8
102.5°	884.7	957.8	968.3	945.6	906.3	873.6	850.4	845.6
105°	825.5	952.9	1025.9	1056.1	1057.6	1051.7	1041.4	1037.0
107.5°	741.3	877.0	979.8	1045.5	1081.9	1098.7	1106.1	1108.0
110°	690.6	818.0	924.9	1006.0	1058.3	1089.3	1102.6	1109.2



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CATALOG NUMBER: S124RDIP-S575D810U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	653.5	766.2	867.1	948.2	1007.6	1045.1	1063.7	1074.4
115°	616.1	706.8	793.0	863.7	922.0	966.2	989.8	995.7
117.5°	597.9	672.9	740.6	800.7	850.4	887.5	911.3	916.0
120°	589.6	658.2	717.1	769.4	811.4	843.9	863.0	871.1
122.5°	582.5	648.7	702.4	748.2	783.7	811.4	827.6	835.8
125°	570.4	633.9	684.7	725.2	754.7	776.1	790.0	794.5
127.5°	555.7	616.2	666.9	705.5	735.1	754.1	765.9	770.3
130°	543.9	602.1	652.2	691.3	721.5	740.0	751.8	756.2
132.5°	531.5	586.2	635.2	674.2	703.8	724.6	735.8	740.3
135°	514.4	562.3	607.3	644.1	673.6	694.3	706.1	710.5
137.5°	499.0	539.5	577.4	610.7	638.2	658.6	668.3	673.6
140°	490.1	524.7	557.9	588.9	614.6	630.8	641.2	647.1
142.5°	481.8	512.4	540.8	567.6	590.5	605.5	614.6	618.8
145°	470.2	495.3	517.4	538.0	556.5	568.9	576.4	580.0
147.5°	460.6	480.5	498.2	514.4	528.0	538.8	544.3	545.6
150°	454.7	471.6	486.4	499.6	511.5	521.0	525.5	526.2
152.5°	448.3	462.8	476.4	487.3	497.3	505.1	507.7	508.5
155°	438.5	450.3	461.4	470.2	477.6	483.4	485.7	485.7
157.5°	428.0	437.9	447.2	454.3	459.9	464.3	465.6	465.6
160°	421.6	429.7	437.8	443.7	448.1	452.5	453.3	453.3
162.5°	415.1	422.0	428.4	433.7	436.9	441.3	442.1	441.5
165°	406.0	410.5	415.7	419.3	422.3	425.3	424.5	423.8
167.5°	397.4	400.8	404.9	407.1	408.6	410.5	410.4	409.7
170°	392.1	394.3	397.3	399.4	401.0	401.6	401.0	401.0
172.5°	387.4	389.0	390.8	392.4	393.2	394.0	393.2	392.1
175°	381.1	381.7	383.2	383.2	383.2	384.7	383.2	381.7
177.5°	376.9	377.5	377.5	378.1	377.5	378.1	376.9	375.7
180°	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1

(END OF REPORT)