

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: P334806

Luminaire Tested: **S124IP-S590U927-4F0-1E-UDD-4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P334806
TEST 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: S124IP-S590U927-4F0-1E-UDD-4
Description: DEFINE 4 INDIRECT LED LUMINAIRE, BATWING OPTIC
PENDANT MOUNT, 590 LUMENS PER FOOT
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1676.2 lumens
Efficiency: N/A
Efficacy: 89.2 lumens/watt
Spacing Criteria (0/90/45): - / - / -
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Indirect

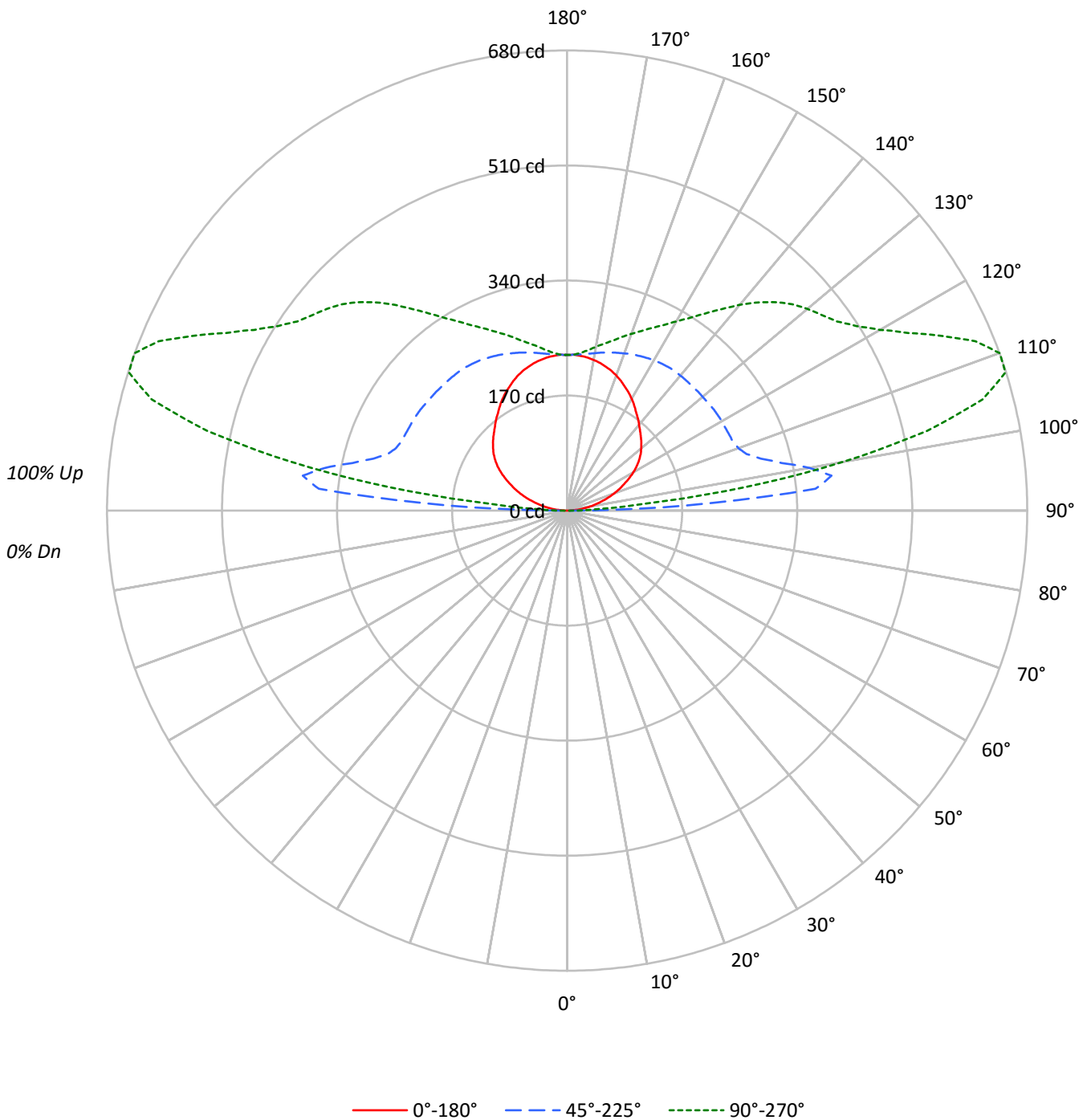
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	95	95	95	95	81	81	81	81	56	56	56	32	32	32	10	10	10	0
1	87	83	79	76	74	71	68	65	48	47	45	28	27	26	9	9	8	0
2	79	72	66	62	67	62	57	53	42	40	37	24	23	22	8	7	7	0
3	72	63	56	51	61	54	49	44	37	34	31	21	20	18	7	6	6	0
4	65	56	48	43	56	48	42	37	33	29	26	19	17	16	6	6	5	0
5	60	49	42	36	51	42	36	32	29	25	22	17	15	13	5	5	4	0
6	55	44	36	31	47	38	32	27	26	22	19	15	13	11	5	4	4	0
7	50	39	32	27	43	34	28	23	23	19	17	14	11	10	4	4	3	0
8	47	35	28	23	40	30	24	20	21	17	14	12	10	9	4	3	3	0
9	43	32	25	20	37	27	22	18	19	15	13	11	9	8	4	3	3	0
10	40	29	22	18	34	25	19	16	17	14	11	10	8	7	3	3	2	0

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	0	0	0
5°	0	0	0
10°	0	0	0
15°	0	0	0
20°	0	0	0
25°	0	0	0
30°	0	0	0
35°	0	0	0
40°	0	0	0
45°	0	0	0
50°	0	0	0
55°	0	0	0
60°	0	0	0
65°	0	0	0
70°	0	0	0
75°	0	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	0.0	0.0
10°-20°	0.0	0.0
20°-30°	0.0	0.0
30°-40°	0.0	0.0
40°-50°	0.0	0.0
50°-60°	0.0	0.0
60°-70°	0.0	0.0
70°-80°	0.0	0.0
80°-90°	0.9	0.1
90°-100°	166.7	9.9
100°-110°	348.0	20.8
110°-120°	309.4	18.5
120°-130°	260.4	15.5
130°-140°	217.3	13.0
140°-150°	165.9	9.9
150°-160°	116.6	7.0
160°-170°	68.6	4.1
170°-180°	22.3	1.3
0°-30°	0.0	0.0
0°-40°	0.0	0.0
0°-60°	0.0	0.0
0°-90°	0.9	0.1
90°-120°	824.1	49.2
90°-150°	1467.7	87.6
90°-180°	1675.0	99.9
0°-180°	1676.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	0	0	0	0	0	
5°	0	0	0	0	0	0
15°	0	0	0	0	0	0
25°	0	0	0	0	0	0
35°	0	0	0	0	0	0
45°	0	0	0	0	0	0
55°	0	0	0	0	0	0
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	4	8	9	10	1
95°	15	47	368	182	110	16
105°	53	77	296	638	636	56
115°	93	117	264	508	610	92
125°	130	154	263	432	487	116
135°	154	183	261	384	436	119
145°	178	203	259	324	356	111
155°	202	218	252	286	298	93
165°	220	227	242	256	260	62
175°	230	230	232	235	234	22
180°	230	230	230	230	230	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.5	1.4	2.7	3.2	3.6	3.6	6.3	6.3	7.2	8.1	7.7
92.5°	6.3	9.0	14.0	20.8	28.9	40.7	68.7	112.5	155.0	177.1	147.3
95°	14.9	16.3	20.8	26.7	37.5	56.5	95.8	169.9	277.9	368.3	378.7
97.5°	24.9	24.9	28.9	34.3	43.8	60.1	91.3	155.0	266.2	394.1	474.9
100°	34.3	34.3	37.5	42.9	51.5	66.0	92.6	143.7	235.9	363.3	479.0
102.5°	43.4	44.3	47.0	52.0	60.1	73.7	97.2	140.5	215.6	324.9	445.1
105°	52.9	54.2	56.5	61.9	70.0	83.1	104.8	142.3	205.6	296.4	402.6
107.5°	63.3	64.2	66.4	72.3	80.0	93.1	113.0	147.8	202.9	277.9	367.8
110°	73.7	74.6	76.8	82.2	90.4	102.6	122.5	154.1	203.8	269.3	343.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	83.6	84.5	87.2	92.2	100.3	112.5	131.5	160.9	206.5	265.3	329.0
115°	93.1	94.4	97.6	102.1	110.7	122.9	141.0	168.1	210.1	264.4	321.3
117.5°	103.0	104.4	107.1	112.1	120.2	132.9	150.0	175.3	213.7	263.9	317.2
120°	113.0	113.9	117.0	122.0	129.7	142.3	159.5	183.0	217.8	263.9	314.1
122.5°	122.0	122.9	126.1	130.6	139.2	151.4	168.6	190.2	221.9	263.5	310.5
125°	129.7	131.5	134.2	139.2	147.8	160.4	176.7	197.5	225.9	263.0	306.4
127.5°	136.9	138.3	141.4	146.9	155.9	168.6	184.4	203.8	229.1	262.1	301.0
130°	142.8	144.6	148.2	155.0	163.6	176.7	192.1	209.7	232.7	261.6	296.0
132.5°	148.7	150.0	155.0	161.3	170.8	183.0	198.4	215.6	235.9	261.2	291.5
135°	154.1	155.9	160.4	168.1	177.6	189.3	204.3	220.5	239.1	260.7	287.0
137.5°	159.5	161.3	166.3	173.5	183.5	194.8	208.8	224.1	240.9	260.7	282.9
140°	165.4	166.8	171.7	179.4	188.9	199.7	213.3	227.8	243.1	260.3	279.7
142.5°	171.7	173.1	177.6	184.8	193.9	204.3	217.4	230.5	244.9	260.3	277.0
145°	177.6	179.0	183.5	189.8	198.4	208.3	220.1	232.3	245.4	259.4	273.9
147.5°	184.4	184.8	188.9	195.7	202.9	211.9	223.2	234.1	245.8	258.0	271.1
150°	190.7	191.2	194.8	200.2	207.0	215.6	225.5	235.4	245.8	256.7	268.0
152.5°	196.6	196.6	200.2	205.2	211.0	218.7	227.3	236.3	244.9	254.4	264.4
155°	202.0	202.5	205.2	209.7	214.7	221.4	229.1	236.8	244.0	252.2	260.7
157.5°	207.4	207.4	210.1	213.7	218.3	223.7	230.5	236.8	243.1	249.9	257.1
160°	212.4	212.4	214.2	217.4	221.0	225.9	231.4	236.8	241.8	247.2	253.1
162.5°	216.9	216.5	217.8	220.5	223.7	227.3	232.3	236.8	240.4	244.5	249.4
165°	220.1	220.1	221.0	223.2	225.5	228.2	232.3	235.9	238.6	241.8	245.4
167.5°	223.7	223.2	223.7	225.5	226.9	229.1	232.3	235.0	236.8	239.1	241.8
170°	225.9	225.5	225.9	227.3	228.2	229.6	231.8	234.1	235.0	236.3	238.2
172.5°	228.2	227.8	227.8	228.7	229.1	230.0	231.4	233.2	233.2	233.6	235.0
175°	229.6	229.1	229.1	229.6	230.0	230.0	230.9	232.3	231.8	231.8	232.7
177.5°	230.5	230.0	229.6	230.0	230.0	230.0	230.5	231.4	230.5	230.5	230.9
180°	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	8.1	8.6	9.0	9.0	9.5	9.9	9.5	9.5
92.5°	108.9	81.3	64.2	52.9	46.1	42.9	41.1	41.1
95°	334.9	264.8	204.3	160.4	138.3	124.3	116.1	110.3
97.5°	482.2	447.4	397.7	347.1	316.3	289.2	275.7	264.8
100°	545.0	554.0	531.9	498.4	459.1	431.6	418.0	414.4
102.5°	541.8	595.6	609.2	600.1	579.8	561.7	547.3	544.5
105°	506.1	584.3	629.0	647.6	648.5	644.9	638.5	635.8
107.5°	462.3	546.8	609.2	647.1	667.0	675.1	678.8	679.2
110°	423.4	501.6	567.1	616.8	648.9	667.9	676.0	680.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	395.0	461.8	522.8	572.6	610.1	634.0	646.2	653.4
115°	377.8	433.4	486.2	529.6	565.3	592.4	606.9	610.5
117.5°	367.8	414.8	457.8	495.7	527.4	550.9	566.2	568.5
120°	361.5	403.5	439.7	471.8	497.5	517.4	529.2	534.1
122.5°	356.1	396.3	428.4	455.5	476.3	492.6	502.1	507.0
125°	349.8	388.6	419.8	444.7	462.7	475.9	484.4	487.1
127.5°	342.5	380.0	411.2	434.7	452.8	464.6	471.8	474.5
130°	333.5	369.2	399.9	423.9	442.4	453.7	460.9	463.6
132.5°	324.0	357.0	386.8	410.8	428.9	442.0	448.7	451.4
135°	315.4	344.8	372.4	395.0	413.0	425.7	432.9	435.6
137.5°	307.3	333.1	357.0	377.8	395.0	408.1	413.9	417.1
140°	300.5	321.8	342.1	361.1	376.9	386.8	393.2	396.8
142.5°	294.2	312.3	329.0	344.8	358.4	367.4	372.8	375.1
145°	288.3	303.7	317.2	329.9	341.2	348.9	353.4	355.6
147.5°	283.3	296.0	307.3	317.7	326.3	333.1	336.7	337.6
150°	278.8	289.2	298.3	306.4	313.6	319.5	322.2	322.7
152.5°	273.9	282.4	290.6	296.9	302.8	307.3	308.6	309.1
155°	268.9	276.1	282.9	288.3	292.8	296.4	297.8	297.8
157.5°	263.5	269.8	275.7	280.2	283.8	286.5	287.4	287.4
160°	258.5	263.5	268.4	272.0	274.8	277.5	277.9	277.9
162.5°	253.5	257.6	261.2	264.4	266.2	268.9	269.3	268.9
165°	249.0	251.7	254.9	257.1	258.9	260.7	260.3	259.8
167.5°	244.5	246.7	249.4	250.8	251.7	253.1	253.1	252.6
170°	240.4	241.8	243.6	244.9	245.8	246.3	245.8	245.8
172.5°	236.8	237.7	238.6	239.5	240.0	240.4	240.0	239.1
175°	233.6	234.1	235.0	235.0	235.0	235.9	235.0	234.1
177.5°	231.4	231.8	231.8	232.3	231.8	232.3	231.4	230.5
180°	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0

(END OF REPORT)