

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: INVUE

Report Number: P401050

Luminaire Tested: **ENT-SA1A-830-U-T4FT**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401050
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-15)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1A-830-U-T4FT
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K, 350mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV FORWARD
THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2080 lumens
Efficiency: N/A
Efficacy: 103.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G1

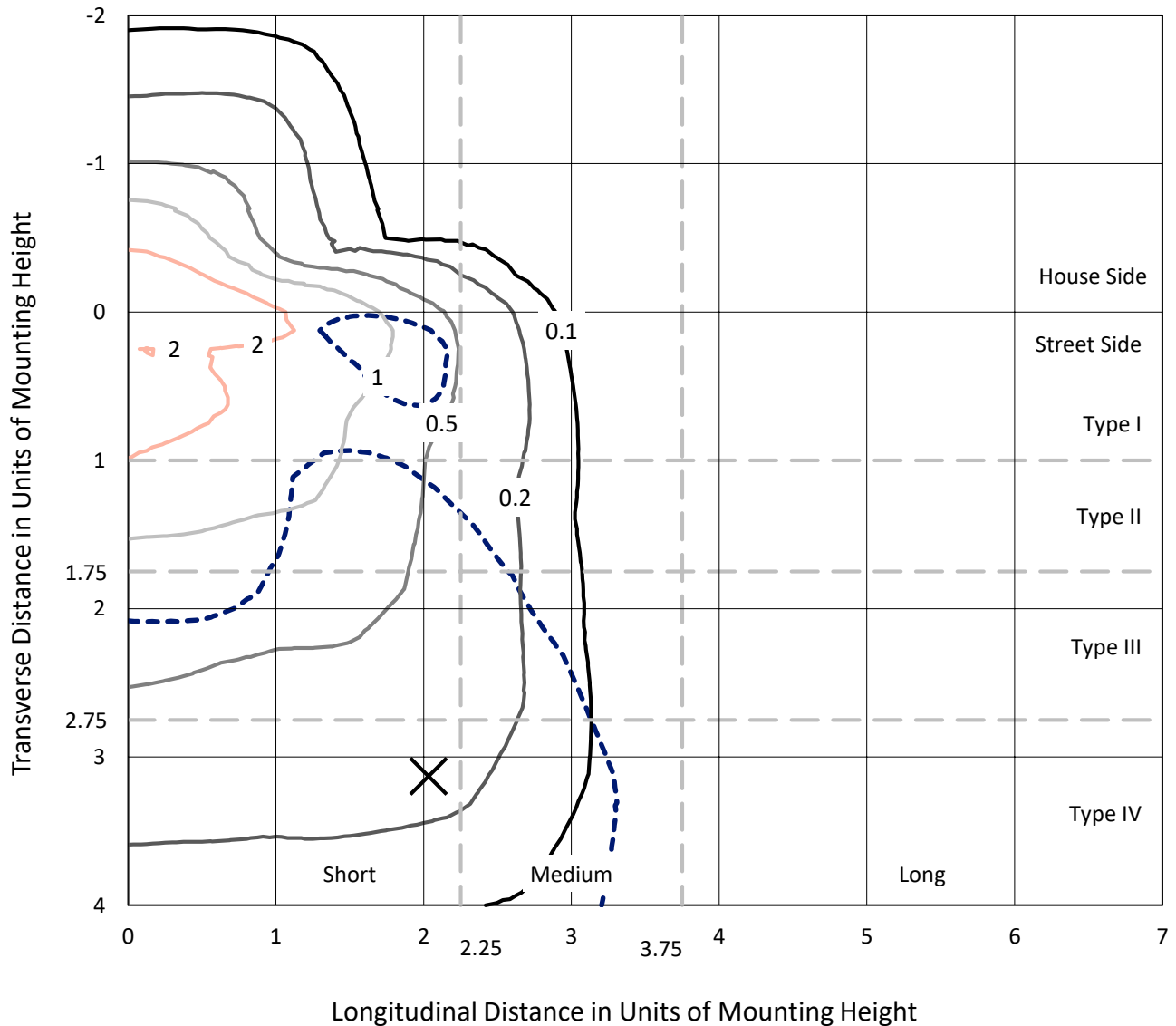
Input Watts (W): 20.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P401050
 CATALOG NUMBER: ENT-SA1A-830-U-T4FT

Iso-Footcandle Lines of Horizontal Illumination

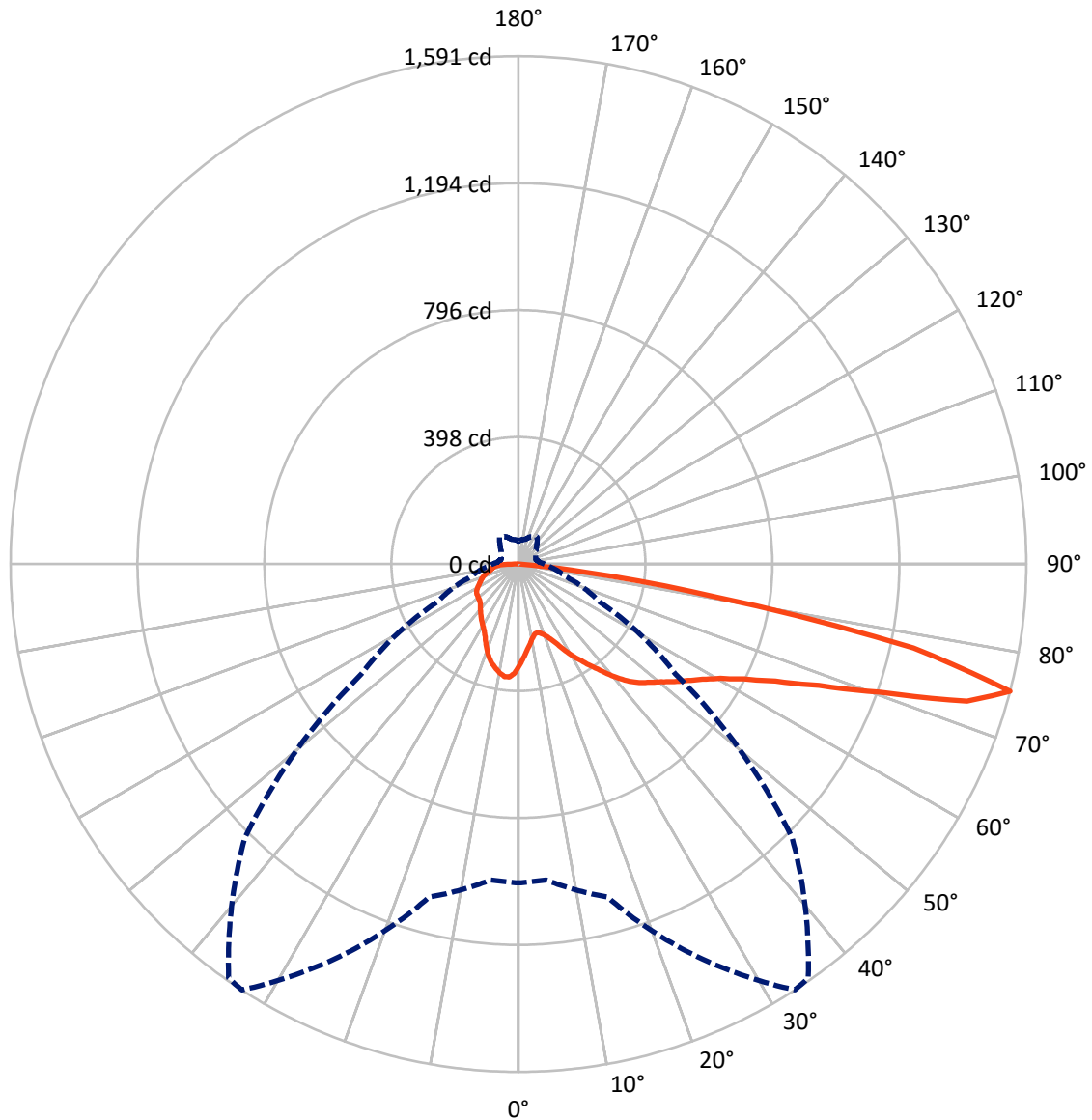
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.4 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P401050
CATALOG NUMBER: ENT-SA1A-830-U-T4FT

Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral - - - Horizontal Cone Through 75-Deg Vertical

REPORT NUMBER: P401050

CATALOG NUMBER: ENT-SA1A-830-U-T4FT

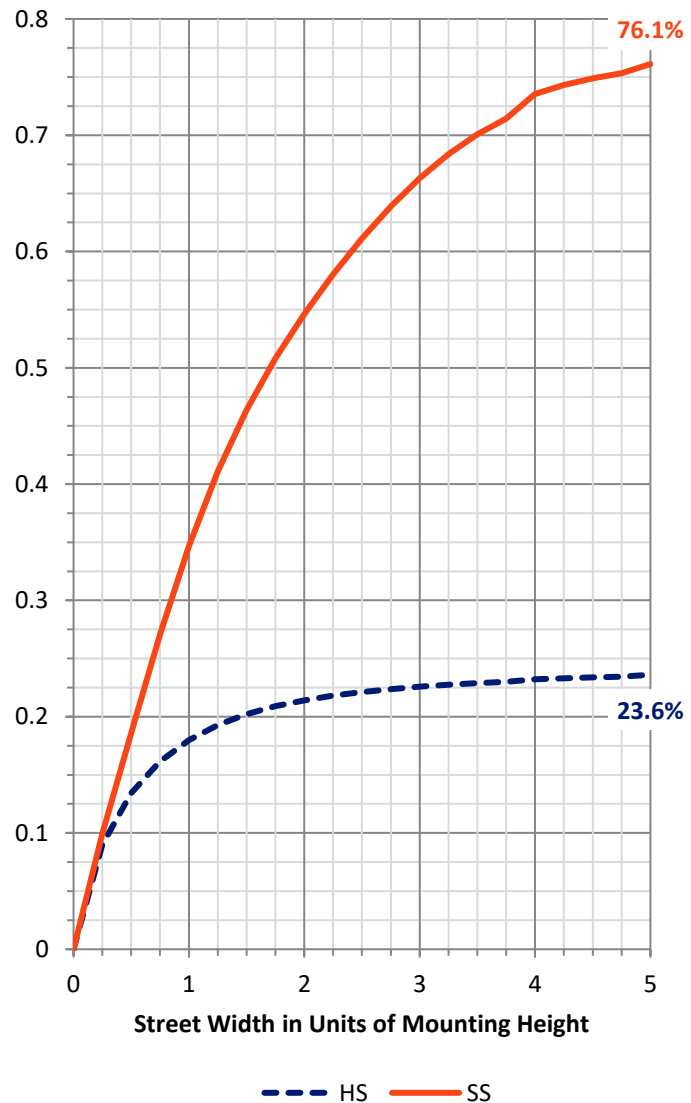
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	505.3	0.0	505.3
	% Fixture	24.3	0.0	24.3
Street Side	Lumens	1574.7	0.0	1574.7
	% Fixture	75.7	0.0	75.7
Total	Lumens	2080.0	0.0	2080.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.8	1.4
10°-20°	83.7	4.0
20°-30°	139.2	6.7
30°-40°	207.7	10.0
40°-50°	290.2	14.0
50°-60°	387.4	18.6
60°-70°	480.3	23.1
70°-80°	415.3	20.0
80°-90°	46.4	2.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	2080.0	100.0
0°-180°	2080.0	100.0



REPORT NUMBER: P401050

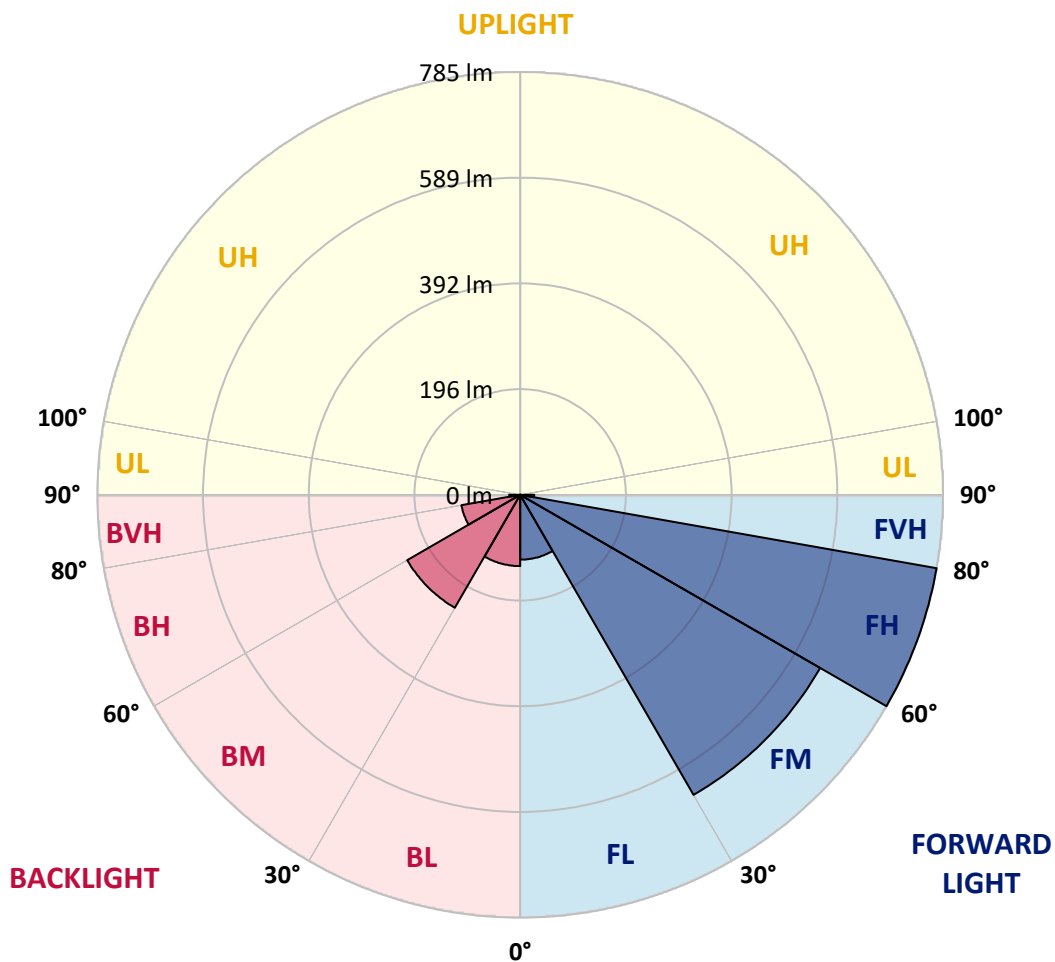
CATALOG NUMBER: ENT-SA1A-830-U-T4FT

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	120.4	5.8			
FM	(30°-60°)	643.2	30.9			
FH	(60°-80°)	784.9	37.7			G1/1800
FVH	(80°-90°)	26.2	1.3			G1/100
BL	(0°-30°)	132.3	6.4	B1/500		
BM	(30°-60°)	242.1	11.6	B1/1000		
BH	(60°-80°)	110.6	5.3	B1/500		G1/500
BVH	(80°-90°)	20.2	1.0			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type IV Short





REPORT NUMBER: P401050

CATALOG NUMBER: ENT-SA1A-830-U-T4FT

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	318.7	318.7	318.7	318.7	318.7	318.7	318.7	318.7	318.7	318.7	318.7
2.5°	289.1	289.7	291.5	293.7	294.9	294.9	298.3	302.4	307.3	311.6	316.2
5°	265.0	265.9	267.5	270.2	273.6	274.2	281.0	288.1	297.1	306.7	315.9
7.5°	241.2	243.1	246.1	249.8	255.1	256.3	265.9	275.5	287.8	302.4	317.5
10°	223.0	224.2	225.8	231.0	237.5	239.7	252.3	264.4	281.3	299.3	319.3
12.5°	218.0	218.0	218.0	220.5	225.8	227.6	240.9	256.3	275.5	297.1	322.1
15°	225.1	224.8	221.4	219.6	222.7	224.2	235.6	250.8	272.4	297.7	327.4
17.5°	241.2	240.3	232.2	226.1	228.2	229.2	236.6	249.5	271.5	300.2	335.1
20°	262.2	260.0	247.7	238.4	238.1	238.7	244.3	253.2	273.0	304.5	343.4
22.5°	290.0	288.8	270.5	256.3	253.9	253.9	256.3	261.9	277.0	309.5	354.9
25°	325.8	322.4	300.5	281.3	275.8	274.2	273.9	273.9	284.1	316.9	369.1
27.5°	362.6	358.6	336.3	310.4	303.0	300.2	295.2	291.5	293.4	324.9	386.0
30°	395.6	390.1	371.2	344.4	333.2	328.9	320.0	312.2	307.3	336.0	408.6
32.5°	413.8	411.7	398.7	374.3	361.6	359.8	345.0	334.8	326.1	350.5	438.9
35°	438.2	435.5	427.1	407.0	391.9	387.3	376.2	364.1	350.2	370.0	477.2
37.5°	460.8	459.2	456.2	442.3	426.2	421.6	411.4	398.7	379.9	398.7	520.1
40°	483.6	481.8	480.5	475.6	464.2	461.1	456.2	441.3	416.0	430.2	562.4
42.5°	517.0	513.0	500.0	499.7	500.6	503.1	503.4	487.0	455.5	469.4	599.4
45°	560.5	549.4	520.4	519.5	530.3	536.8	552.5	538.6	496.6	509.6	640.8
47.5°	582.8	571.3	541.4	539.5	553.7	563.3	602.2	588.6	539.2	554.7	683.8
50°	593.6	586.2	559.9	565.8	580.3	589.6	649.5	638.7	583.4	603.5	737.8
52.5°	608.7	596.4	577.8	590.2	611.8	621.4	691.8	689.9	620.8	656.6	797.1
55°	603.5	597.0	600.4	617.1	644.2	658.4	734.4	734.4	658.7	713.4	855.8
57.5°	607.8	603.5	631.6	646.4	680.7	701.1	785.7	772.1	690.9	761.0	895.3
60°	644.5	632.2	654.1	683.5	727.6	747.4	844.4	811.6	717.1	802.0	902.4
62.5°	709.4	699.5	701.7	735.3	792.5	815.3	902.4	846.5	734.7	819.3	875.9
65°	816.9	812.2	785.7	806.1	884.8	905.5	975.0	876.8	729.8	806.4	805.8
67.5°	961.4	942.9	907.1	925.3	1016.1	1037.1	1062.4	888.2	697.7	728.9	647.6
70°	1081.2	1065.8	1049.4	1097.3	1201.7	1213.1	1153.5	877.4	619.5	570.4	434.2
72.5°	1157.5	1146.4	1161.5	1302.4	1469.4	1447.8	1243.4	801.7	483.3	349.3	217.1
75°	999.1	993.8	1080.3	1366.0	1591.4	1583.4	1212.2	600.1	280.4	153.8	98.8
77.5°	502.5	559.6	650.7	969.1	1266.2	1267.8	883.3	288.5	118.0	86.2	67.9
80°	141.4	143.3	217.1	399.6	632.2	673.6	334.2	97.9	67.3	64.2	50.6
82.5°	33.7	31.2	55.6	118.3	212.2	220.8	100.4	35.2	37.7	40.1	31.2
85°	0.3	0.3	0.3	0.3	0.3	0.6	3.7	3.7	9.0	11.4	9.0
87.5°	0.0	0.0	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P401050

CATALOG NUMBER: ENT-SA1A-830-U-T4FT

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	318.7	318.7	318.7	318.7	318.7	318.7	318.7	318.7	318.7	318.7	318.7
2.5°	318.4	321.5	326.4	330.8	334.5	337.2	341.6	342.2	343.4	344.0	344.7
5°	321.2	327.1	336.3	344.4	349.9	351.5	355.2	354.9	355.2	355.2	354.9
7.5°	324.9	332.9	345.9	354.9	357.9	357.0	356.1	352.7	349.9	348.7	347.1
10°	329.5	338.8	353.9	360.4	358.9	353.9	348.1	341.9	336.9	334.5	333.9
12.5°	334.2	346.2	360.4	362.3	356.1	347.1	337.2	330.5	324.0	320.6	320.6
15°	341.9	355.2	365.7	362.0	350.8	339.4	325.8	316.6	309.1	304.5	304.2
17.5°	351.1	365.4	371.2	360.4	344.4	328.3	311.9	299.9	290.3	285.7	282.9
20°	362.6	375.9	374.0	355.5	334.8	315.0	294.6	280.1	270.2	265.3	264.4
22.5°	375.5	386.7	374.9	347.4	321.8	296.5	274.2	259.7	253.2	249.5	249.8
25°	391.3	399.9	375.2	337.9	303.3	272.1	252.6	245.8	244.9	243.4	244.0
27.5°	411.1	413.8	374.0	324.9	279.5	246.5	235.0	237.8	240.3	239.3	240.0
30°	434.5	430.5	371.2	306.1	250.2	223.0	223.6	229.8	233.2	232.2	232.6
32.5°	462.0	447.2	366.0	283.2	222.4	208.8	213.7	219.9	223.3	223.3	223.6
35°	492.9	467.3	355.8	253.6	202.9	200.1	204.4	209.4	211.6	210.3	211.2
37.5°	525.3	484.6	339.4	220.5	188.4	193.3	195.8	197.0	196.7	194.9	193.9
40°	555.6	498.2	310.1	187.8	176.3	186.2	187.5	184.1	180.1	176.7	174.5
42.5°	578.8	505.3	269.3	164.0	164.9	178.2	179.1	172.3	164.6	159.4	158.1
45°	602.5	507.7	228.8	144.8	152.6	170.2	172.6	163.4	152.9	146.7	145.8
47.5°	629.7	513.9	189.0	131.6	142.1	164.6	168.6	157.2	145.5	136.2	134.7
50°	666.2	525.6	159.1	121.4	134.7	161.8	167.4	152.3	137.4	127.2	126.0
52.5°	712.5	542.9	131.3	113.3	128.8	157.5	165.5	147.3	131.6	119.2	117.4
55°	752.3	549.4	113.3	106.5	122.6	152.3	164.0	145.5	125.1	111.2	109.0
57.5°	770.5	530.9	100.7	99.8	116.1	145.8	160.9	139.3	118.0	107.2	105.3
60°	762.2	484.9	91.1	93.6	108.7	137.4	152.9	133.1	113.0	104.1	102.2
62.5°	725.1	431.8	84.0	87.7	100.4	126.9	143.6	127.5	108.7	100.7	98.2
65°	660.0	373.4	78.8	82.5	93.0	116.7	136.2	121.1	103.8	95.7	93.6
67.5°	538.6	297.1	73.2	77.2	86.8	108.4	129.4	115.8	98.2	93.0	91.1
70°	356.4	199.8	67.9	72.0	80.6	100.4	122.3	110.3	93.0	89.6	87.1
72.5°	163.7	107.5	62.4	66.4	73.5	91.4	113.3	101.9	85.9	83.7	80.0
75°	80.9	66.1	55.6	59.3	64.9	80.6	102.8	94.8	79.4	75.7	71.3
77.5°	59.0	49.4	47.9	51.6	56.2	71.3	91.7	87.4	72.9	67.6	65.2
80°	43.9	38.3	40.1	43.9	48.2	64.5	85.9	81.8	67.3	62.1	60.2
82.5°	26.9	25.6	30.9	35.2	40.5	59.3	81.8	74.7	60.5	55.6	53.4
85°	7.7	9.3	15.8	22.9	28.7	47.9	76.3	65.5	51.0	42.6	41.1
87.5°	0.0	0.9	4.9	10.5	17.0	31.8	58.7	51.3	38.9	31.5	30.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)