

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: LUMARK

Report Number: P197062

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197062
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-SL2-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21410 lumens
Efficiency: N/A
Efficacy: 83.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 258
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

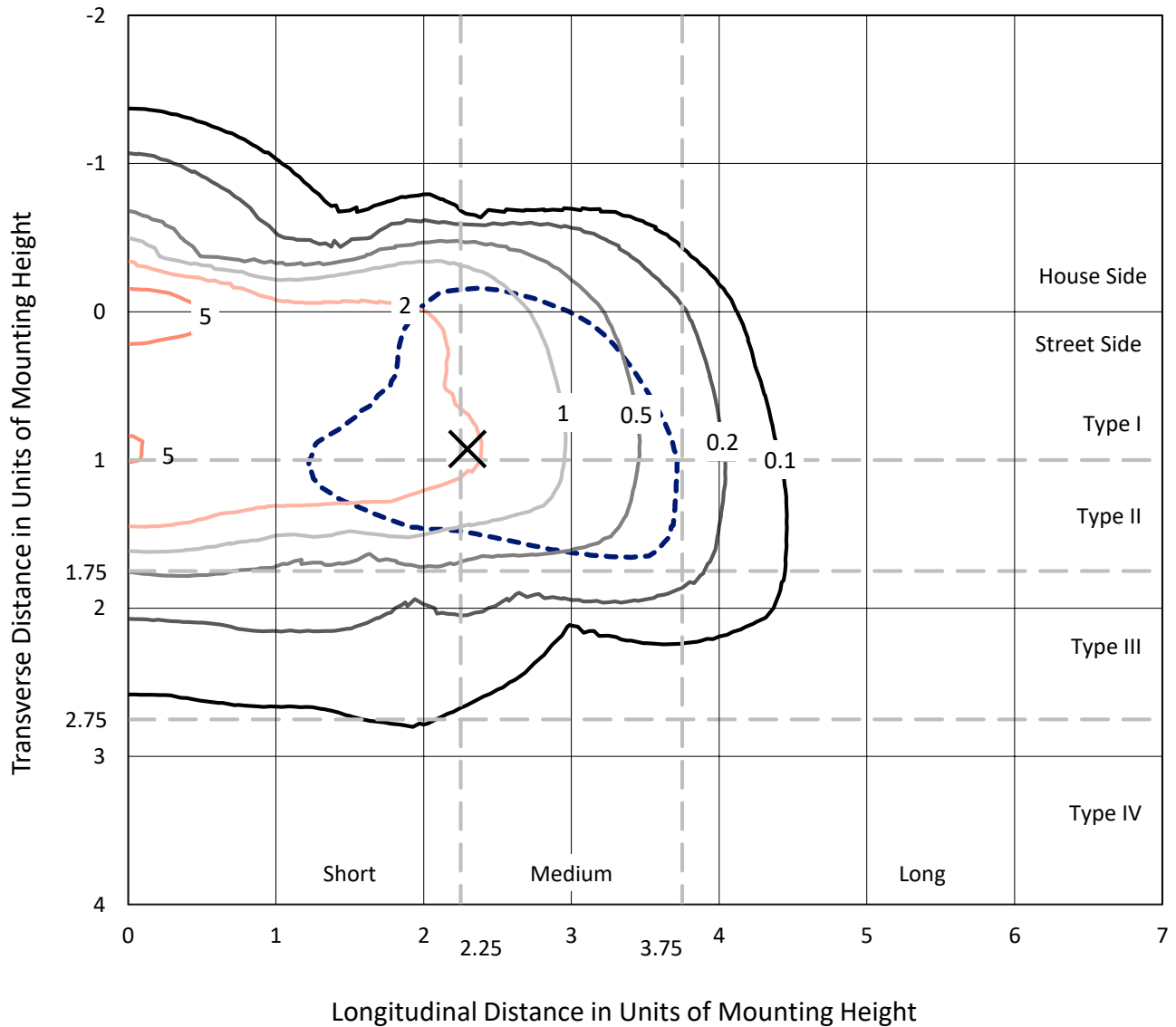


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Iso-Footcandle Lines of Horizontal Illumination

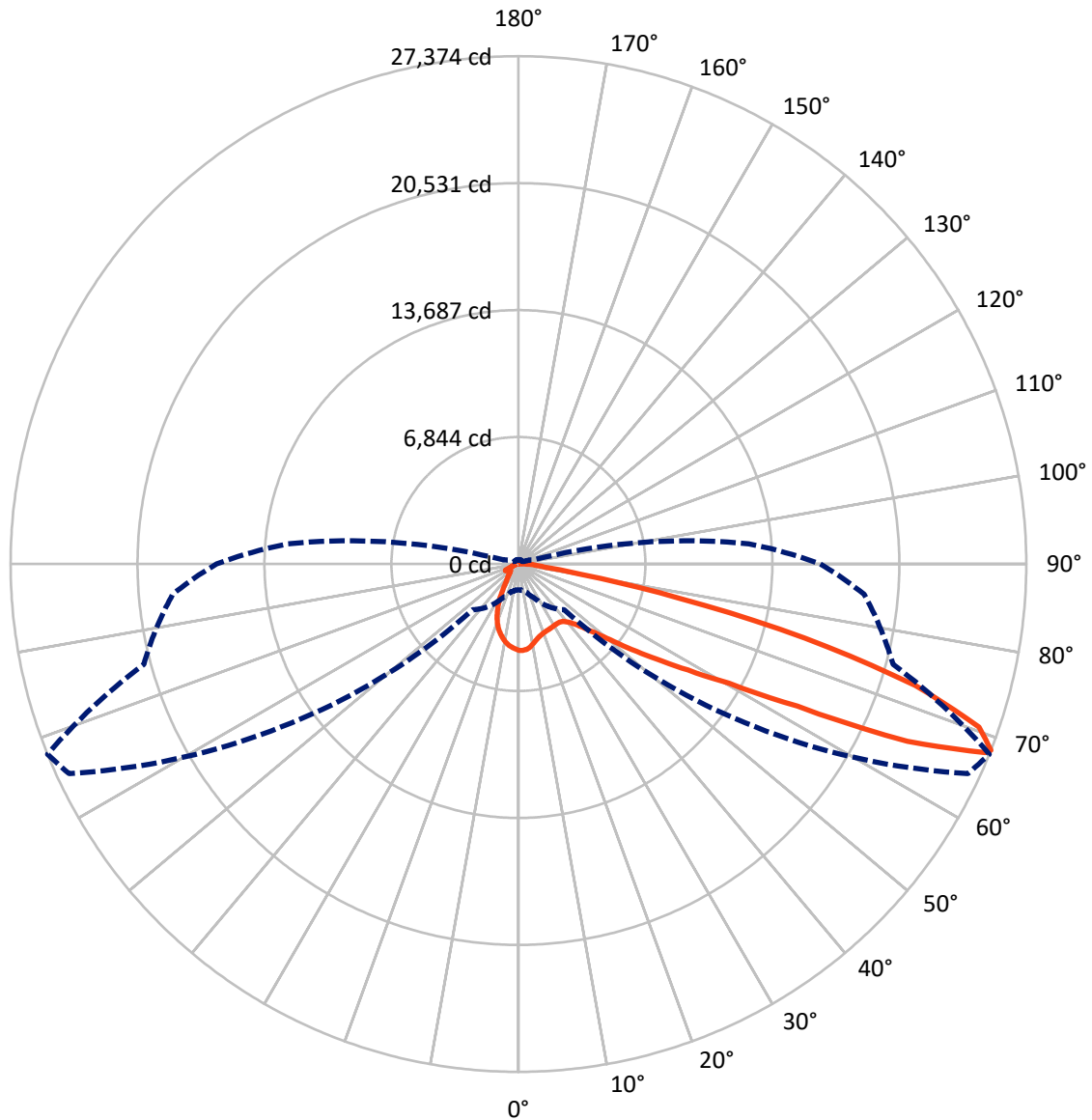
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.5 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3502.7	0.0	3502.7
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	17907.3	0.0	17907.3
	% Fixture	83.6	0.0	83.6
Total	Lumens	21410.0	0.0	21410.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	399.2	1.9
10°-20°	925.8	4.3
20°-30°	1252.1	5.8
30°-40°	1765.4	8.2
40°-50°	2903.0	13.6
50°-60°	4500.0	21.0
60°-70°	5834.6	27.3
70°-80°	3348.2	15.6
80°-90°	481.7	2.3
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°	21410.0	100.0
0°-180°	21410.0	100.0



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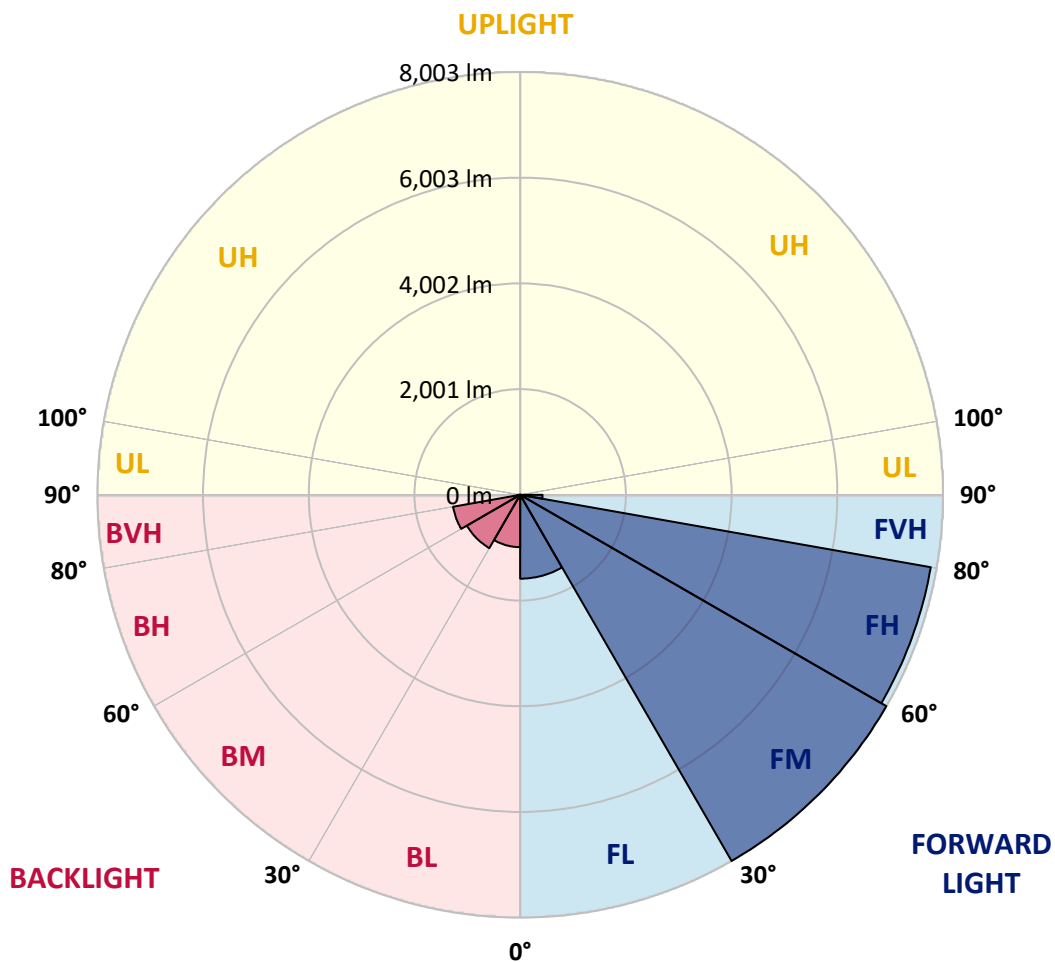
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1586.8	7.4			
FM	(30°-60°)	8003.4	37.4			
FH	(60°-80°)	7892.7	36.9			G4/12000
FVH	(80°-90°)	424.3	2.0			G3/500
BL	(0°-30°)	990.3	4.6	B2/1000		
BM	(30°-60°)	1165.0	5.4	B2/2500		
BH	(60°-80°)	1290.0	6.0	B3/2500		G3/2500
BVH	(80°-90°)	57.4	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	4658.6	4658.6	4658.6	4658.6	4658.6	4658.6	4658.6	4658.6	4658.6	4658.6	4658.6
2.5°	4534.2	4570.5	4570.5	4597.1	4620.9	4640.4	4657.2	4657.2	4657.2	4646.0	4636.2
5°	4057.2	4106.2	4113.2	4180.3	4268.4	4376.1	4496.4	4602.7	4623.7	4662.8	4678.2
7.5°	3725.8	3741.2	3767.7	3813.9	3903.4	4036.3	4225.1	4462.8	4520.2	4643.2	4707.6
10°	3490.8	3503.4	3525.8	3571.9	3653.1	3773.3	3959.3	4268.4	4363.5	4581.7	4709.0
12.5°	3318.8	3328.6	3349.6	3391.5	3474.0	3581.7	3771.9	4093.6	4211.1	4520.2	4728.6
15°	3184.5	3201.3	3218.1	3258.7	3342.6	3446.1	3639.1	3966.3	4093.6	4471.2	4764.9
17.5°	3131.4	3139.8	3142.6	3163.6	3239.1	3344.0	3537.0	3876.8	4008.3	4432.1	4792.9
20°	3165.0	3166.4	3138.4	3124.4	3167.8	3264.3	3451.7	3809.7	3944.0	4397.1	4804.1
22.5°	3311.8	3311.8	3239.1	3177.5	3148.2	3208.3	3394.3	3763.5	3909.0	4370.5	4804.1
25°	3591.5	3578.9	3465.6	3344.0	3213.9	3188.7	3358.0	3734.2	3882.4	4356.5	4785.9
27.5°	3959.3	3948.2	3804.1	3623.7	3388.7	3230.7	3345.4	3710.4	3855.8	4335.6	4746.7
30°	4406.9	4397.1	4233.5	3997.1	3650.3	3363.6	3374.7	3693.6	3834.9	4300.6	4681.0
32.5°	4853.0	4847.4	4717.4	4475.4	4011.1	3588.7	3451.7	3690.8	3823.7	4258.6	4601.3
35°	5302.0	5302.0	5222.2	5018.1	4496.4	3927.2	3612.5	3742.6	3844.7	4236.3	4532.8
37.5°	5964.9	5938.3	5790.1	5578.9	5107.6	4366.3	3872.6	3851.7	3925.8	4274.0	4510.4
40°	6991.4	6914.5	6543.9	6188.7	5774.7	4928.5	4253.0	4062.8	4107.6	4402.7	4563.5
42.5°	8065.5	7943.9	7453.0	6885.1	6464.2	5622.2	4752.3	4405.5	4404.1	4651.6	4732.7
45°	8987.2	8924.3	8392.8	7672.5	7251.6	6402.6	5383.1	4914.6	4864.2	5037.6	5058.6
47.5°	9522.8	9480.9	9160.6	8506.1	8185.8	7324.3	6183.1	5620.8	5525.7	5629.2	5597.1
50°	9374.6	9415.1	9322.8	8988.6	9190.0	8619.4	7202.6	6588.6	6408.2	6511.7	6433.4
52.5°	8594.2	8703.3	8785.8	8850.1	9767.6	10352.2	8483.7	7797.0	7647.4	7629.2	7553.7
55°	7188.6	7362.1	7622.2	8094.9	9612.3	11743.8	10721.4	9258.5	9040.3	8925.7	8955.0
57.5°	4892.2	5155.1	5715.9	6615.2	8805.4	12336.8	14030.4	11146.6	10777.4	10369.0	10464.1
60°	2695.0	2914.6	3581.7	4488.0	6963.5	12248.6	16963.2	14215.0	13052.8	11970.3	12166.1
62.5°	1744.0	1791.6	2288.1	3065.7	4274.0	10813.7	18592.5	19343.6	16880.7	14082.2	14357.7
65°	1401.4	1434.9	1678.3	2472.7	2977.5	6956.5	18665.3	24663.7	23040.0	16952.0	16960.4
67.5°	1369.2	1384.6	1525.8	2079.7	2792.9	3787.3	16133.9	26761.6	27137.8	20339.4	18701.6
68°	1388.8	1407.0	1549.6	2015.3	2791.5	3490.8	14911.5	26729.4	27374.1	20905.8	18701.6
70°	1225.1	1247.5	1580.4	2085.3	2672.7	3001.3	10210.9	25309.9	26347.6	22207.8	17745.0
72.5°	640.5	622.4	781.8	1646.1	3008.3	3127.2	5394.3	21144.9	22356.1	20567.3	15331.1
75°	499.3	454.5	437.8	650.3	2646.1	3243.3	3132.8	15029.0	15943.7	14826.2	10247.3
77.5°	469.9	415.4	383.2	384.6	1165.0	3374.7	2534.2	8844.5	8844.5	7072.6	3269.8
80°	377.6	327.3	306.3	349.6	562.2	3110.4	2644.7	4030.7	3437.7	1827.9	900.7
82.5°	248.9	222.4	223.8	283.9	426.6	2076.9	3062.9	1990.2	1495.1	809.8	530.1
85°	158.0	135.7	151.0	198.6	318.9	925.9	3032.1	1383.2	990.2	454.5	264.3
87.5°	79.7	61.5	75.5	103.5	194.4	265.7	2496.4	1234.9	734.2	188.8	144.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4658.6	4658.6	4658.6	4658.6	4658.6	4658.6	4658.6	4658.6	4658.6	4658.6	4658.6
2.5°	4636.2	4605.5	4590.1	4564.9	4534.2	4503.4	4482.4	4472.6	4467.0	4469.8	4468.4
5°	4669.8	4629.3	4563.5	4469.8	4373.3	4271.2	4192.9	4132.8	4095.0	4083.8	4081.0
7.5°	4695.0	4636.2	4513.2	4342.5	4177.5	3998.5	3846.1	3724.4	3641.9	3604.1	3602.7
10°	4690.8	4615.3	4420.9	4169.1	3927.2	3664.2	3425.1	3220.9	3072.7	3001.3	2998.5
12.5°	4695.0	4591.5	4307.6	3966.3	3619.5	3243.3	2888.0	2570.6	2349.6	2244.7	2240.5
15°	4711.8	4566.3	4191.5	3739.8	3260.1	2728.6	2220.9	1822.3	1620.9	1552.4	1552.4
17.5°	4710.4	4524.4	4057.2	3476.8	2833.5	2121.6	1516.0	1269.9	1250.3	1313.3	1323.0
20°	4682.4	4457.2	3883.8	3165.0	2332.8	1468.5	1027.9	993.0	1149.6	1323.0	1342.6
22.5°	4639.0	4370.5	3683.8	2802.7	1749.6	956.6	793.0	846.1	1058.7	1274.1	1304.9
25°	4578.9	4265.6	3454.5	2381.8	1163.6	688.1	661.5	727.3	876.9	1021.0	1043.3
27.5°	4490.8	4132.8	3204.1	1925.8	742.6	566.4	576.2	622.4	686.7	748.2	760.8
30°	4380.3	3977.5	2931.4	1420.9	563.6	506.3	523.1	551.0	579.0	618.2	626.6
32.5°	4268.4	3819.5	2647.5	976.2	492.3	474.1	490.9	506.3	530.1	556.6	562.2
35°	4167.7	3672.6	2355.2	681.1	461.5	453.1	461.5	471.3	495.1	521.7	524.5
37.5°	4095.0	3552.4	2050.3	538.4	443.3	435.0	439.1	443.3	471.3	510.5	514.7
40°	4085.2	3472.6	1741.2	483.9	429.4	418.2	415.4	418.2	454.5	499.3	503.5
42.5°	4180.3	3476.8	1439.1	461.5	418.2	405.6	394.4	400.0	432.2	467.1	469.9
45°	4405.5	3574.7	1177.6	451.7	408.4	398.6	381.8	384.6	400.0	418.2	421.0
47.5°	4802.7	3788.7	977.6	446.1	400.0	391.6	370.6	362.2	363.6	373.4	373.4
50°	5437.6	4146.7	855.9	440.5	393.0	377.6	353.8	337.1	332.9	338.5	339.9
52.5°	6384.5	4760.7	797.2	429.4	380.4	359.4	332.9	316.1	309.1	314.7	314.7
55°	7664.1	5741.1	769.2	414.0	365.0	337.1	313.3	299.3	293.7	297.9	297.9
57.5°	9122.8	7015.2	816.8	393.0	345.4	313.3	296.5	286.7	282.5	286.7	288.1
60°	10855.7	8682.3	1144.0	366.4	324.5	292.3	282.5	276.9	274.1	278.3	278.3
62.5°	13159.1	10900.4	1770.6	345.4	302.1	272.7	269.9	267.1	264.3	268.5	268.5
65°	15645.8	12918.6	1822.3	332.9	282.5	255.9	257.3	257.3	254.5	258.7	258.7
67.5°	16437.4	12743.7	1018.2	317.5	258.7	239.2	244.7	244.7	243.4	247.5	246.1
68°	16269.5	12466.8	886.7	313.3	254.5	235.0	240.6	242.0	240.6	244.7	243.4
70°	15019.2	10945.2	583.2	289.5	236.4	221.0	229.4	230.8	229.4	235.0	233.6
72.5°	12398.3	8209.6	430.8	253.1	214.0	202.8	211.2	212.6	214.0	219.6	218.2
75°	7873.9	4534.2	339.9	215.4	191.6	181.8	190.2	194.4	197.2	205.6	201.4
77.5°	2156.6	1376.2	275.5	183.2	165.0	160.8	166.4	172.0	174.8	184.6	177.6
80°	755.2	608.4	229.4	155.2	137.1	135.7	141.3	146.8	149.6	158.0	149.6
82.5°	458.7	397.2	183.2	121.7	107.7	106.3	113.3	118.9	121.7	121.7	116.1
85°	239.2	209.8	134.3	85.3	74.1	69.9	82.5	89.5	90.9	89.5	85.3
87.5°	134.3	118.9	71.3	40.6	33.6	35.0	43.4	53.1	57.3	55.9	53.1
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)