

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: P196057

Luminaire Tested: **NAV-AF-01-D-UNV-SL2-600-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196057  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-01-D-UNV-SL2-600-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(1) 70 CRI, 4000K, 615mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE II SPILL  
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3358.3 lumens  
Efficiency: N/A  
Efficacy: 98.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Medium - Semi-Cutoff  
BUG Rating: B1 - U0 - G1

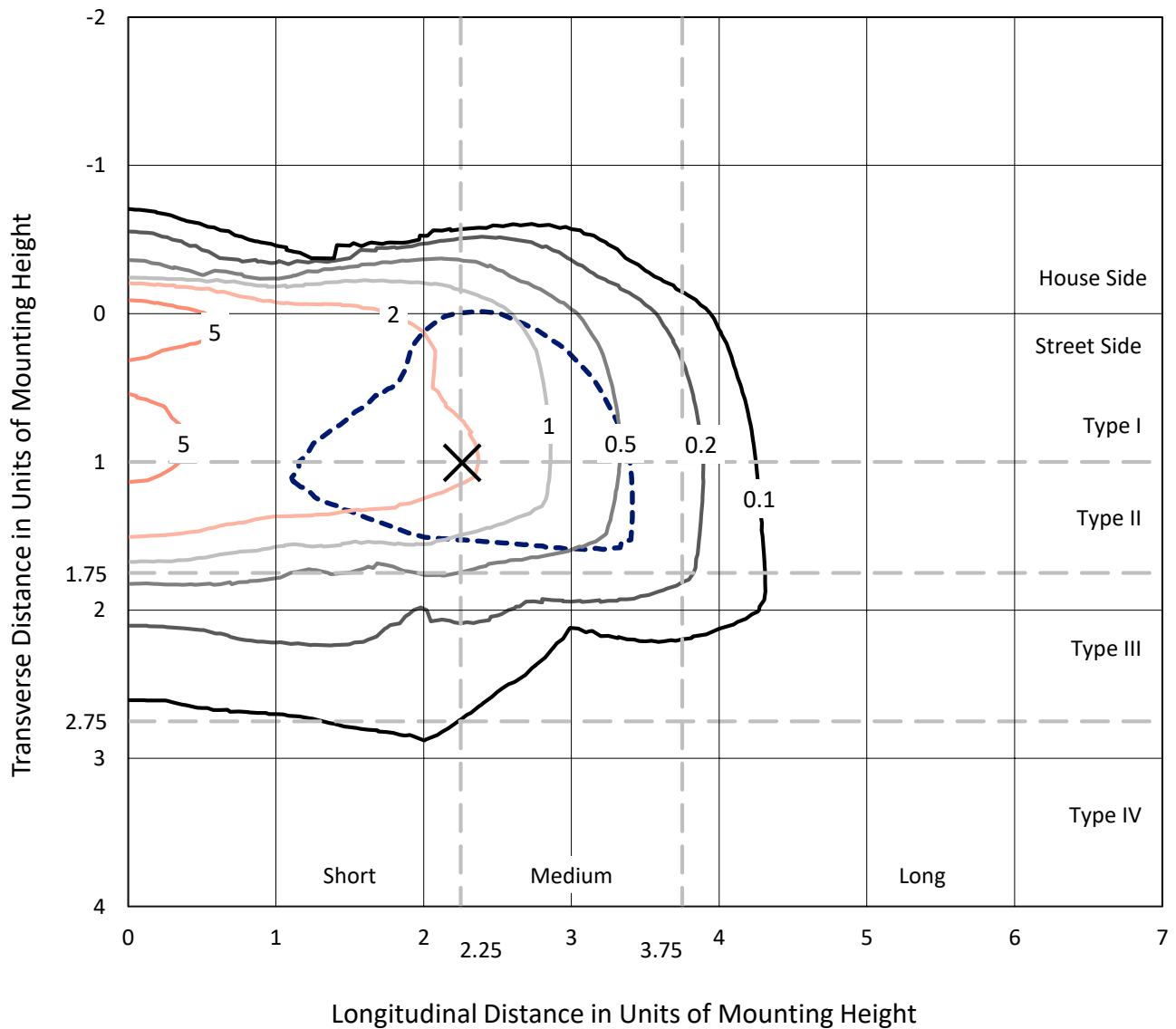
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

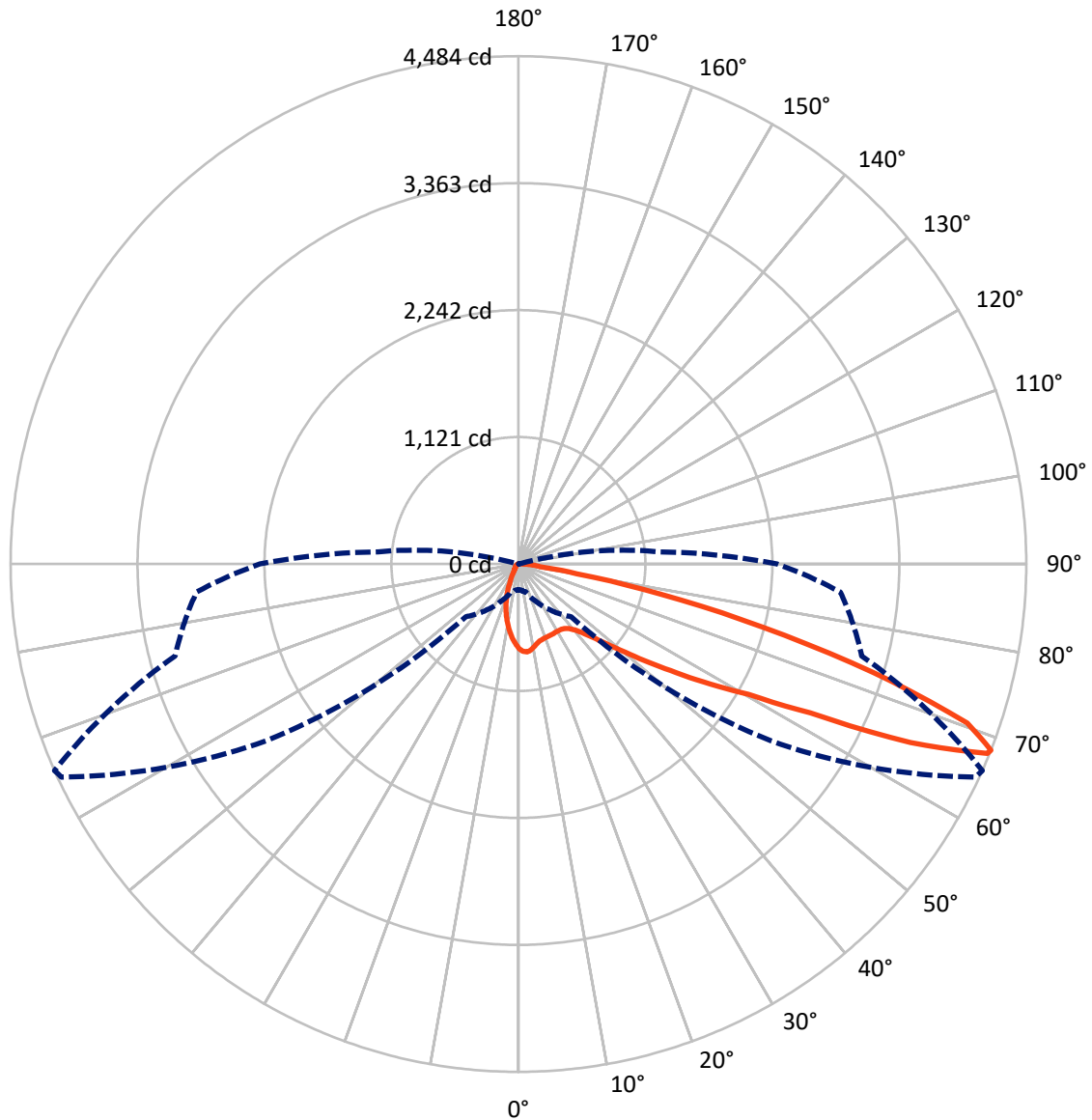
× Max cd  
 - - - 1/2 Max cd



Based on 10 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 66-Deg Lateral    - - - Horizontal Cone Through 68-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	340.2	0.0	340.2
	% Fixture	10.1	0.0	10.1
<b>Street Side</b>	Lumens	3018.2	0.0	3018.2
	% Fixture	89.9	0.0	89.9
<b>Total</b>	Lumens	3358.3	0.0	3358.3
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.3	1.8
10°-20°	132.0	3.9
20°-30°	191.2	5.7
30°-40°	292.8	8.7
40°-50°	500.7	14.9
50°-60°	783.3	23.3
60°-70°	901.9	26.9
70°-80°	451.3	13.4
80°-90°	43.7	1.3
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°	3358.3	100.0
0°-180°	3358.3	100.0



REPORT NUMBER: P196057

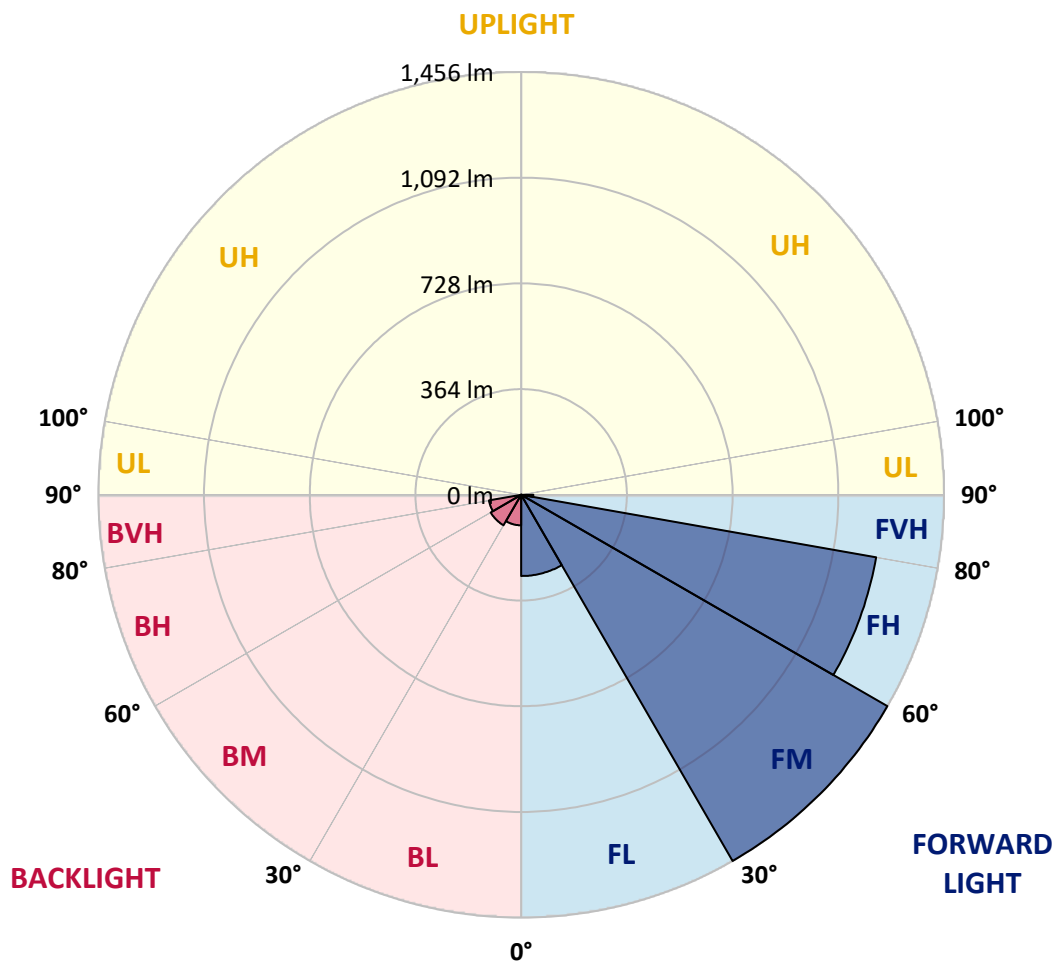
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	279.6	8.3			
FM	(30°-60°)	1455.7	43.3			
FH	(60°-80°)	1240.9	36.9			G1/1800
FVH	(80°-90°)	42.1	1.3			G1/100
BL	(0°-30°)	105.0	3.1	B0/110		
BM	(30°-60°)	121.1	3.6	B0/220		
BH	(60°-80°)	112.4	3.3	B1/500		G1/500
BVH	(80°-90°)	1.6	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2
2.5°	787.0	787.5	787.3	788.0	787.5	783.6	779.3	770.4	771.1	759.5	746.7
5°	731.6	736.1	740.5	745.0	755.9	765.4	776.7	779.3	779.3	769.3	750.3
7.5°	675.1	675.5	680.5	686.5	701.0	718.4	744.8	768.5	769.1	771.7	750.8
10°	632.7	634.0	637.5	644.0	658.6	675.7	705.2	742.5	745.3	764.9	745.5
12.5°	599.8	601.4	605.1	612.7	625.8	643.5	674.6	717.1	721.1	758.2	744.0
15°	574.5	576.5	579.5	587.2	601.4	620.1	654.1	700.2	705.0	755.6	749.0
17.5°	564.0	564.0	563.6	569.0	583.2	602.1	637.7	691.3	697.3	757.7	757.4
20°	568.5	567.6	562.1	560.8	569.5	588.4	624.8	685.5	692.3	761.7	767.7
22.5°	592.1	590.5	578.2	567.8	565.3	577.9	616.1	681.5	689.7	769.9	781.4
25°	642.5	637.7	620.6	597.4	576.5	575.3	610.1	679.4	688.1	779.3	796.5
27.5°	707.9	706.6	679.1	648.0	607.9	584.0	608.2	677.8	686.5	786.1	808.5
30°	789.1	789.6	758.0	717.4	656.7	608.5	614.0	677.0	686.0	786.6	813.9
32.5°	872.9	873.4	847.1	803.5	723.4	650.7	630.3	680.7	688.9	784.6	813.6
35°	953.6	954.4	938.6	903.5	812.5	709.2	661.2	693.4	699.2	785.9	813.0
37.5°	1055.6	1058.8	1039.2	1006.6	924.3	795.1	711.6	718.9	723.7	796.7	817.0
40°	1229.6	1225.4	1169.5	1114.1	1045.6	899.8	784.3	763.0	764.6	824.7	832.1
42.5°	1432.3	1427.1	1331.4	1235.9	1170.3	1026.1	877.4	830.4	830.2	871.6	864.7
45°	1606.9	1603.7	1503.0	1375.7	1308.5	1165.6	992.1	927.7	924.5	952.8	924.3
47.5°	1730.8	1728.2	1652.0	1524.4	1468.2	1319.0	1135.3	1060.4	1053.7	1059.1	1021.1
50°	1742.9	1740.0	1713.3	1631.4	1654.8	1544.1	1312.1	1234.1	1225.7	1217.5	1167.4
52.5°	1629.6	1629.3	1643.3	1637.9	1785.7	1833.8	1529.1	1449.0	1439.0	1418.1	1368.3
55°	1397.9	1396.5	1449.5	1526.4	1782.7	2132.9	1859.9	1704.6	1691.6	1649.8	1584.4
57.5°	1021.3	1014.5	1125.2	1288.4	1657.5	2263.6	2385.4	2022.4	2000.5	1868.4	1767.7
60°	564.0	566.5	708.9	902.1	1360.9	2237.8	2869.0	2392.8	2335.3	2056.9	1955.4
62.5°	316.1	322.7	428.7	586.4	867.7	2028.2	3128.4	3030.3	2891.9	2276.8	2192.7
65°	239.2	243.1	296.3	452.5	547.1	1417.3	3169.7	3921.6	3802.2	2610.1	2570.5
67.5°	225.2	228.3	254.4	375.1	498.3	735.0	2858.1	4448.9	4464.0	3064.6	2863.1
68°	226.7	230.7	256.8	360.9	497.5	657.6	2725.2	4451.6	4483.5	3137.8	2853.1
70°	208.3	209.3	271.6	354.0	482.2	518.0	1971.5	4146.5	4203.7	3225.1	2590.0
72.5°	79.6	79.9	121.8	306.6	505.1	521.0	993.1	3277.3	3280.2	2806.7	2019.2
75°	41.4	34.8	38.3	96.0	482.4	507.8	498.3	2237.8	2223.8	1898.2	1237.3
77.5°	28.4	24.2	25.6	33.2	200.6	507.5	359.9	1286.9	1283.9	807.5	353.0
80°	16.1	14.0	15.2	27.9	70.4	476.4	335.3	553.1	521.2	141.9	57.2
82.5°	8.2	6.9	8.2	23.4	43.8	299.7	326.1	217.0	193.2	33.8	37.1
85°	2.1	2.1	4.0	16.4	27.1	98.3	292.4	156.6	140.8	14.7	26.4
87.5°	0.5	0.3	1.5	6.0	9.7	21.4	162.1	87.3	75.2	7.7	15.2
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: P196057

CATALOG NUMBER: NAV-AF-01-D-UNV-SL2-600-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2
2.5°	741.3	734.0	719.4	703.2	691.5	678.8	671.5	662.6	655.7	649.6	654.1
5°	738.7	724.5	692.3	656.2	625.8	596.9	575.3	554.7	539.1	529.4	533.4
7.5°	731.8	710.7	658.6	602.1	552.6	506.0	468.0	433.9	407.5	393.3	397.8
10°	720.3	690.5	620.3	542.1	472.7	406.8	350.4	299.7	261.6	243.6	247.9
12.5°	711.9	672.6	580.8	484.1	392.8	299.2	224.3	166.3	136.6	118.7	120.2
15°	708.1	658.6	543.9	422.9	305.6	192.2	121.3	87.8	77.5	73.9	74.1
17.5°	708.7	647.5	508.8	359.4	217.5	110.5	74.4	67.0	65.4	64.5	64.5
20°	710.0	636.4	472.4	293.2	139.2	71.2	62.0	59.5	58.8	57.7	58.0
22.5°	713.9	628.0	435.8	226.7	85.7	58.0	54.8	52.7	51.5	49.8	50.1
25°	720.0	621.6	399.7	163.2	60.4	50.6	47.7	44.8	42.5	40.6	40.8
27.5°	723.7	612.7	361.2	111.3	50.1	44.3	40.3	36.4	33.8	32.1	31.9
30°	721.1	598.2	317.4	73.0	44.3	38.3	33.5	28.9	26.4	25.1	25.1
32.5°	713.9	579.5	269.1	53.3	39.3	32.9	27.1	23.2	21.4	20.6	20.9
35°	705.7	560.0	217.8	45.1	35.3	27.9	22.1	19.0	18.2	17.9	17.9
37.5°	701.2	543.1	168.5	40.8	31.6	23.2	18.2	16.4	15.5	15.5	15.5
40°	706.2	530.2	124.7	37.7	27.9	19.2	15.2	14.0	13.7	13.7	13.7
42.5°	727.6	525.7	91.2	35.1	24.2	16.1	13.2	12.2	11.9	12.2	12.2
45°	769.3	535.4	69.0	32.4	20.9	13.2	11.4	10.5	10.5	10.8	10.8
47.5°	839.9	560.5	56.7	29.8	17.4	11.0	9.7	9.2	9.2	9.5	9.5
50°	949.6	606.9	50.8	26.9	14.5	9.5	8.2	7.9	7.9	8.2	8.4
52.5°	1116.2	695.2	48.0	24.0	11.9	7.9	6.9	6.5	6.9	7.2	7.2
55°	1301.6	808.3	44.6	21.1	10.0	6.5	5.5	5.5	5.8	6.3	6.3
57.5°	1474.3	917.5	41.4	17.4	8.7	5.3	4.5	4.5	5.0	5.5	5.5
60°	1656.7	1024.5	37.1	14.0	7.4	4.2	3.7	3.7	4.5	5.0	5.3
62.5°	1882.1	1149.0	31.6	11.0	5.8	3.2	2.7	3.5	4.2	5.0	5.0
65°	2207.9	1303.6	24.8	8.7	4.5	2.4	2.1	3.2	4.0	4.7	5.0
67.5°	2326.4	1283.9	18.7	7.2	3.5	1.8	1.8	2.9	4.0	4.7	4.7
68°	2283.1	1240.7	17.9	6.9	3.2	1.8	1.8	2.9	4.0	4.7	4.7
70°	1989.4	1014.3	14.7	5.3	2.7	1.5	1.5	2.7	4.0	4.5	4.7
72.5°	1489.5	673.8	12.7	3.5	2.4	1.5	1.3	2.7	3.7	4.5	4.5
75°	854.5	279.7	10.8	2.7	2.1	1.3	1.3	2.4	3.7	4.5	4.5
77.5°	241.5	65.4	8.7	2.1	1.8	1.3	1.0	2.4	3.5	4.2	4.2
80°	44.3	19.5	6.9	1.8	1.5	1.3	1.0	2.4	3.5	4.2	4.2
82.5°	29.3	9.2	5.0	1.8	1.5	1.3	1.0	2.1	3.2	4.0	4.0
85°	21.9	6.5	3.2	1.8	1.5	1.3	1.0	2.1	3.2	4.0	4.0
87.5°	12.2	2.9	2.4	2.1	1.8	1.3	1.0	1.8	2.9	3.7	3.7
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)