

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: P195890

Luminaire Tested: **NAV-AF-02-D-UNV-T4W-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195890
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-02-D-UNV-T4W-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7930 lumens
Efficiency: N/A
Efficacy: 120.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

Input Watts (W): 66
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

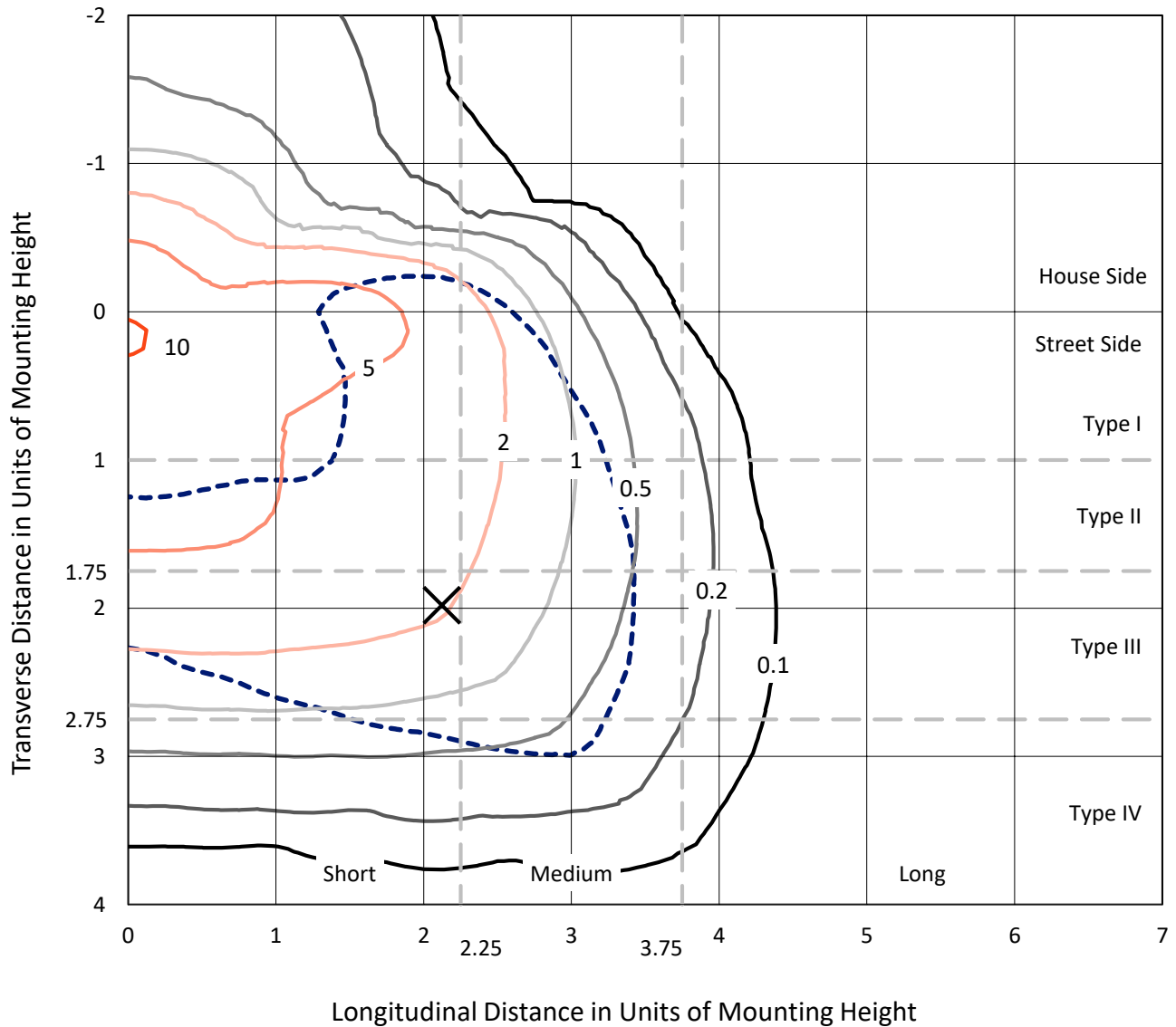


REPORT NUMBER: P195890

CATALOG NUMBER: NAV-AF-02-D-UNV-T4W-7050-600

Iso-Footcandle Lines of Horizontal Illumination

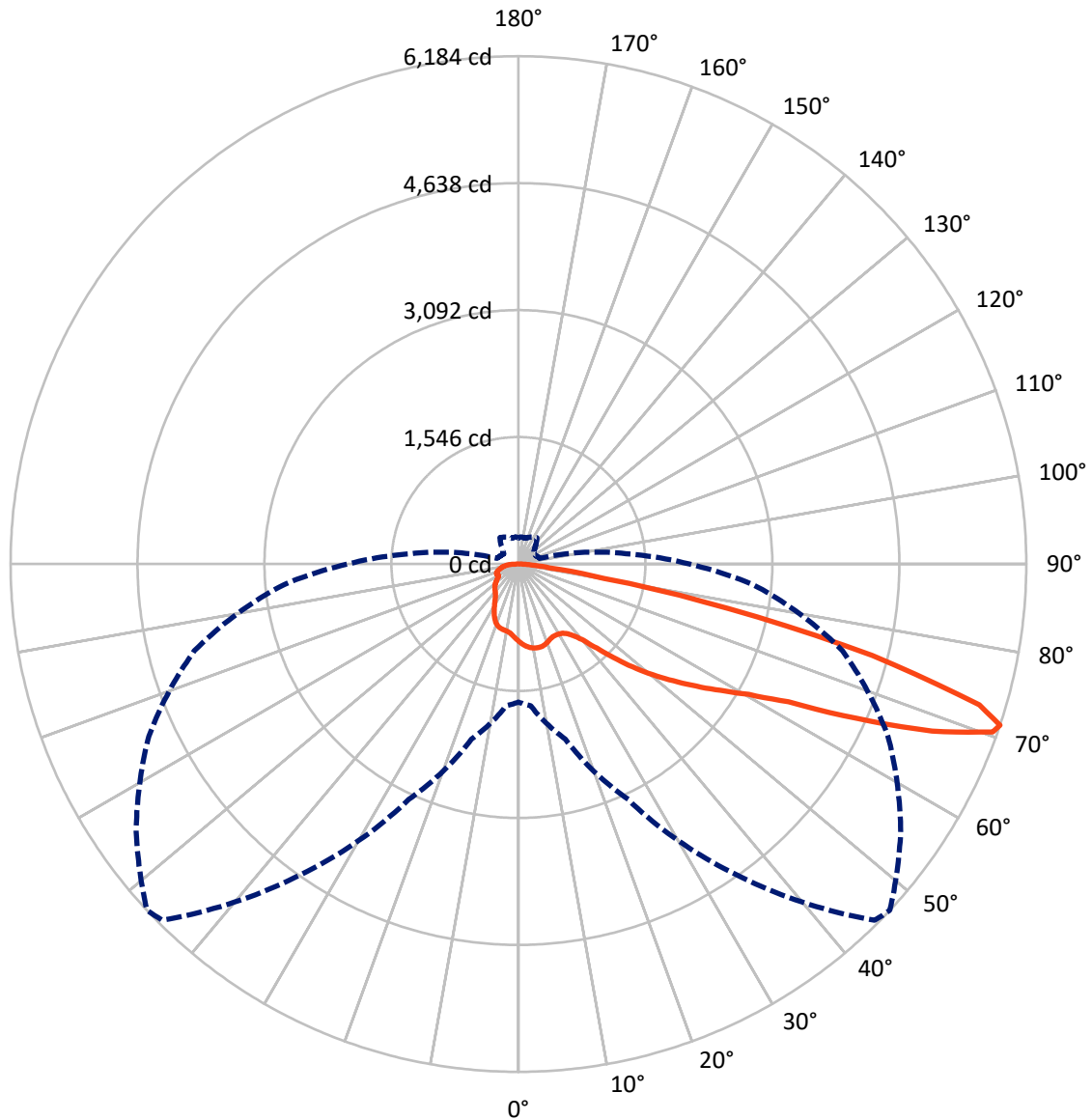
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.8 fc
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P195890
CATALOG NUMBER: NAV-AF-02-D-UNV-T4W-7050-600

Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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CATALOG NUMBER: NAV-AF-02-D-UNV-T4W-7050-600

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1699.5	0.0	1699.5
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	6230.5	0.0	6230.5
	% Fixture	78.6	0.0	78.6
Total	Lumens	7930.0	0.0	7930.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.0	1.1
10°-20°	263.4	3.3
20°-30°	391.4	4.9
30°-40°	562.0	7.1
40°-50°	996.5	12.6
50°-60°	1705.1	21.5
60°-70°	2420.7	30.5
70°-80°	1325.8	16.7
80°-90°	175.0	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°	7930.0	100.0
0°-180°	7930.0	100.0



REPORT NUMBER: P195890

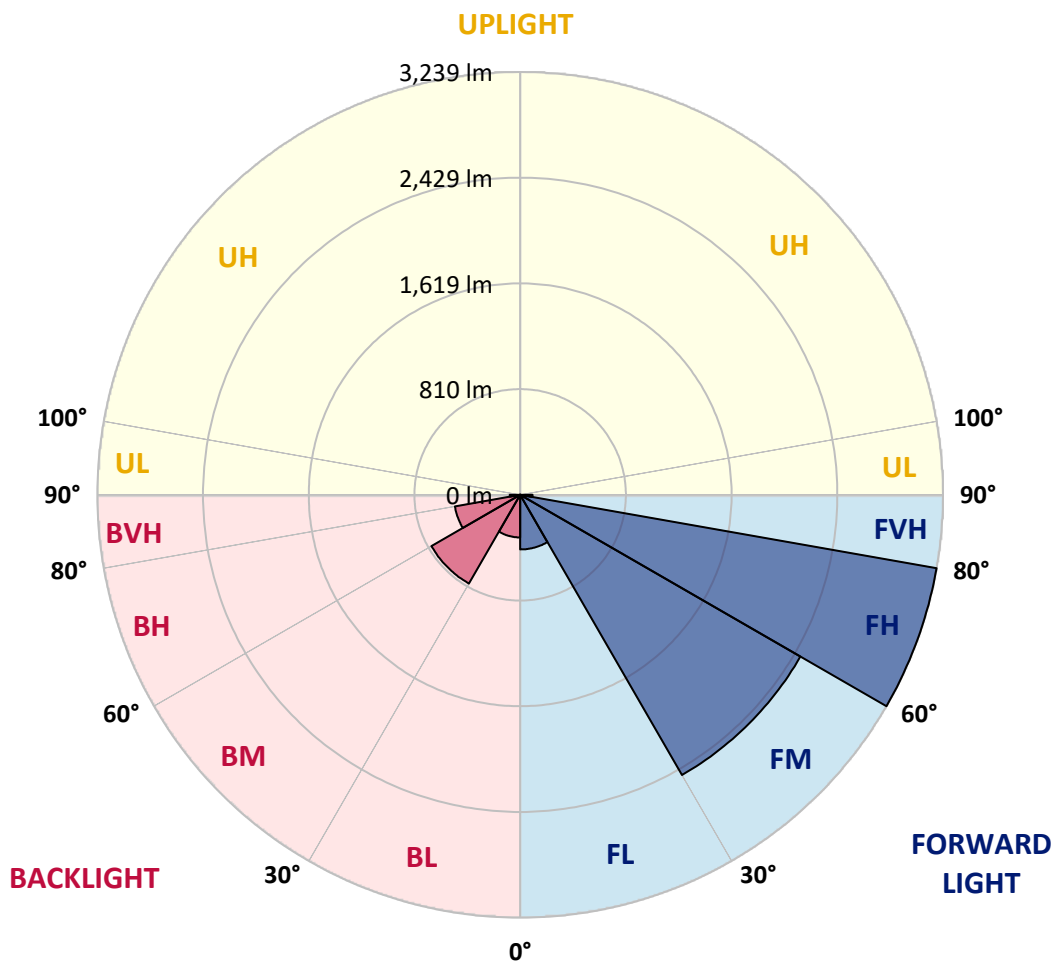
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	418.5	5.3			
FM	(30°-60°)	2478.4	31.3			
FH	(60°-80°)	3238.7	40.8			G2/5000
FVH	(80°-90°)	94.9	1.2			G1/100
BL	(0°-30°)	326.4	4.1	B1/500		
BM	(30°-60°)	785.3	9.9	B1/1000		
BH	(60°-80°)	507.8	6.4	B2/1000		G2/1000
BVH	(80°-90°)	80.1	1.0			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type IV Short





REPORT NUMBER: P195890

CATALOG NUMBER: NAV-AF-02-D-UNV-T4W-7050-600

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	943.0	943.0	943.0	943.0	943.0	943.0	943.0	943.0	943.0	943.0	943.0
2.5°	1000.6	998.5	999.5	995.9	987.2	978.0	978.0	968.2	957.9	947.6	936.3
5°	1062.7	1059.7	1057.1	1045.8	1028.8	1009.8	1006.7	987.2	966.1	945.1	924.5
7.5°	1114.7	1111.6	1103.9	1083.3	1058.6	1030.4	1026.8	1001.1	973.3	944.0	915.3
10°	1151.7	1149.6	1134.7	1108.5	1079.7	1046.3	1040.1	1013.9	981.0	944.6	908.1
12.5°	1172.2	1169.1	1151.1	1120.3	1086.4	1052.5	1046.3	1021.1	983.6	943.5	900.9
15°	1164.0	1162.4	1145.5	1114.1	1080.2	1050.9	1045.8	1020.1	982.1	939.9	894.2
17.5°	1129.0	1132.6	1119.3	1088.4	1060.7	1040.1	1034.5	1010.3	974.4	931.2	883.9
20°	1080.7	1084.8	1078.2	1046.8	1030.9	1017.5	1014.4	994.9	961.5	918.3	871.6
22.5°	1029.3	1032.9	1033.5	1004.2	999.0	993.9	991.3	977.4	950.2	910.6	863.4
25°	993.9	998.0	999.0	973.3	976.4	978.0	977.4	967.7	948.1	910.6	864.4
27.5°	984.6	986.7	985.7	962.0	967.7	976.4	976.9	974.9	956.4	920.9	878.8
30°	1016.5	1017.5	1004.7	969.2	974.9	986.2	986.7	985.7	973.8	947.6	911.1
32.5°	1154.2	1153.2	1109.0	1017.5	998.0	1002.1	1003.7	1012.9	1013.9	991.8	957.9
35°	1363.9	1363.4	1312.0	1155.8	1063.8	1042.2	1044.2	1058.6	1071.5	1056.6	1037.1
37.5°	1594.6	1596.2	1564.8	1353.1	1205.6	1115.7	1113.6	1124.4	1147.5	1152.7	1155.3
40°	1850.6	1858.3	1856.7	1579.7	1404.5	1241.1	1220.5	1208.2	1252.9	1281.2	1317.6
42.5°	2143.0	2140.9	2141.9	1828.5	1631.6	1438.4	1400.4	1342.8	1394.7	1443.6	1523.7
45°	2394.3	2402.5	2408.7	2093.1	1886.0	1664.0	1625.5	1520.6	1567.4	1640.4	1762.7
47.5°	2647.1	2632.7	2644.0	2387.6	2169.2	1921.5	1871.6	1730.3	1774.0	1876.8	2062.8
50°	2941.6	2934.9	2883.5	2772.0	2511.4	2182.5	2117.3	1949.2	2013.0	2150.2	2433.3
52.5°	3205.7	3169.7	3129.7	3074.2	2848.0	2446.7	2363.9	2176.9	2294.1	2464.2	2893.3
55°	3302.3	3278.2	3326.5	3398.4	3204.2	2716.0	2623.5	2442.6	2611.1	2823.4	3434.4
57.5°	3405.1	3413.3	3522.3	3667.7	3541.3	3003.2	2903.0	2757.1	2959.0	3225.2	4039.3
60°	3456.5	3489.4	3706.8	3979.7	3862.0	3318.3	3222.2	3118.4	3345.0	3669.3	4642.6
62.5°	3465.2	3509.4	3817.3	4089.1	4303.4	3800.8	3689.8	3577.3	3827.0	4160.0	5079.4
65°	3304.9	3372.7	3807.5	4223.8	4705.8	4607.1	4536.7	4340.4	4472.5	4592.2	5153.9
67.5°	2833.7	2907.7	3430.8	4168.3	5028.5	5443.8	5430.4	5140.6	4971.0	4759.2	4601.5
70°	2079.8	2139.4	2642.0	3563.4	4887.7	6100.5	6124.2	5659.1	5110.2	4404.7	3421.6
71°	1682.0	1733.4	2207.2	3163.6	4613.3	6134.4	6183.8	5682.2	4965.3	4084.5	2864.5
72.5°	1046.8	1075.6	1465.6	2387.6	3972.5	5785.0	5868.2	5386.2	4509.0	3452.4	2024.8
75°	395.2	406.5	543.7	1053.0	2371.1	4346.1	4446.8	4070.6	3167.7	1970.8	847.4
77.5°	212.2	217.9	269.8	437.8	950.2	2491.4	2620.9	2321.8	1519.6	689.7	346.4
80°	142.4	145.9	186.5	259.5	436.8	948.7	1056.6	932.2	568.9	393.6	246.7
82.5°	92.0	94.0	126.9	170.6	282.1	333.5	380.8	397.8	355.1	282.1	149.0
85°	60.6	62.2	83.8	108.9	174.7	164.4	168.6	220.5	242.0	186.0	76.1
87.5°	34.9	36.0	50.4	56.0	78.6	61.7	66.8	104.8	143.9	121.3	43.7
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°	943.0	943.0	943.0	943.0	943.0	943.0	943.0	943.0	943.0	943.0	943.0
2.5°	931.2	927.1	917.8	912.2	909.6	908.6	907.6	909.6	909.6	908.6	906.5
5°	914.2	906.5	891.1	880.3	874.7	873.1	875.2	877.7	879.3	879.3	877.7
7.5°	901.9	890.6	870.0	855.1	846.4	843.8	849.5	858.7	864.9	868.0	868.5
10°	891.6	876.2	853.6	838.2	831.0	830.0	837.1	849.0	861.8	867.5	868.5
12.5°	882.4	864.9	840.2	825.8	820.7	823.3	833.0	843.8	858.7	867.0	867.5
15°	873.6	855.6	829.4	814.5	813.5	817.6	826.9	835.6	846.9	857.2	857.2
17.5°	863.4	843.8	816.6	802.7	802.7	806.3	812.5	817.1	824.3	834.1	833.5
20°	851.0	831.0	803.2	788.8	785.8	783.7	783.7	784.7	790.9	799.6	801.2
22.5°	841.8	821.2	791.9	774.5	760.6	747.2	741.6	739.5	745.2	753.4	755.4
25°	841.8	821.2	788.3	759.0	725.1	699.4	688.6	685.5	691.2	698.9	702.0
27.5°	855.6	835.1	796.5	745.2	683.0	641.9	629.0	626.4	631.6	637.8	640.8
30°	888.0	868.0	820.2	729.2	636.2	582.3	567.9	565.3	567.9	570.4	574.0
32.5°	942.0	925.0	858.7	714.8	588.9	528.3	510.8	506.7	507.7	508.2	511.3
35°	1029.9	1022.2	910.1	697.9	544.2	484.1	466.1	457.9	457.4	459.9	463.5
37.5°	1164.5	1169.1	976.4	673.2	507.2	452.7	434.8	426.5	422.4	427.6	431.7
40°	1354.6	1365.4	1053.0	639.8	476.9	434.2	415.2	407.5	401.9	400.3	402.4
42.5°	1601.8	1598.7	1131.1	597.2	444.0	421.9	401.9	393.6	384.4	372.6	370.0
45°	1894.8	1850.6	1196.4	544.7	406.5	410.1	389.5	378.2	363.8	346.4	344.3
47.5°	2240.6	2118.8	1236.4	488.7	371.6	394.7	375.7	358.2	337.1	325.8	324.3
50°	2657.4	2432.8	1264.7	431.7	340.2	375.1	356.1	333.0	312.5	309.4	308.9
52.5°	3150.7	2803.3	1299.7	380.3	315.5	350.0	336.6	313.0	296.5	298.1	298.1
55°	3675.4	3186.7	1300.7	339.7	294.0	320.7	322.2	303.2	290.4	295.5	297.0
57.5°	4153.9	3521.8	1198.4	310.9	273.4	297.5	317.6	306.8	297.0	315.0	316.6
60°	4571.2	3779.7	978.5	287.3	256.4	288.8	327.9	328.9	326.8	375.7	379.3
62.5°	4723.8	3782.3	694.8	267.2	247.2	294.0	349.5	351.0	351.0	396.2	402.9
65°	4510.0	3467.3	462.5	255.4	241.0	305.3	366.9	360.2	344.3	375.7	368.5
67.5°	3756.6	2699.0	338.1	247.7	232.3	305.8	382.3	365.4	338.1	364.9	352.5
70°	2581.8	1717.5	283.2	240.5	222.0	292.4	390.6	363.8	328.9	340.2	323.8
71°	2078.2	1370.6	268.8	237.9	217.9	284.7	391.6	361.8	324.3	331.5	316.6
72.5°	1369.0	844.3	251.3	232.3	211.7	271.3	389.0	357.2	318.1	318.6	308.9
75°	540.1	350.0	226.1	219.4	194.3	249.8	377.7	347.4	306.3	296.0	291.9
77.5°	272.9	228.7	198.9	201.4	173.7	227.7	361.8	331.5	289.8	276.0	272.9
80°	199.4	173.7	170.1	174.7	150.6	206.1	341.7	309.9	268.8	283.2	277.0
82.5°	121.3	105.9	133.1	144.4	125.9	184.0	318.1	284.7	242.0	223.0	215.8
85°	57.6	62.2	96.1	106.4	93.0	147.0	290.9	257.0	211.2	182.4	185.5
87.5°	28.3	34.4	55.0	63.7	61.2	107.9	219.4	199.4	166.5	137.2	134.1
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)