

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: P195995

Luminaire Tested: **NAV-AF-05-D-UNV-AFL-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195995
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24283)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-05-D-UNV-AFL-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20860 lumens
Efficiency: N/A
Efficacy: 99.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G2

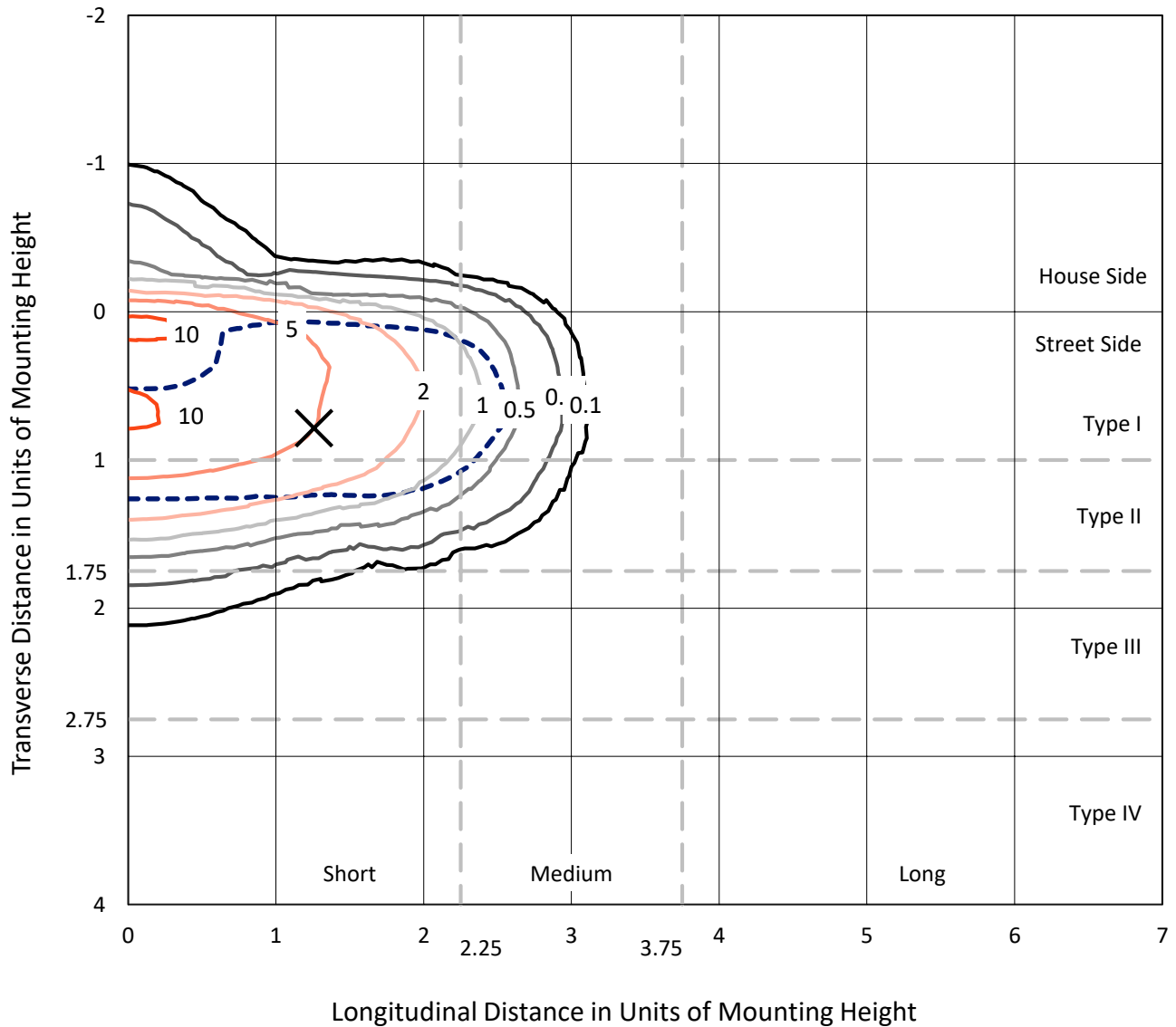
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

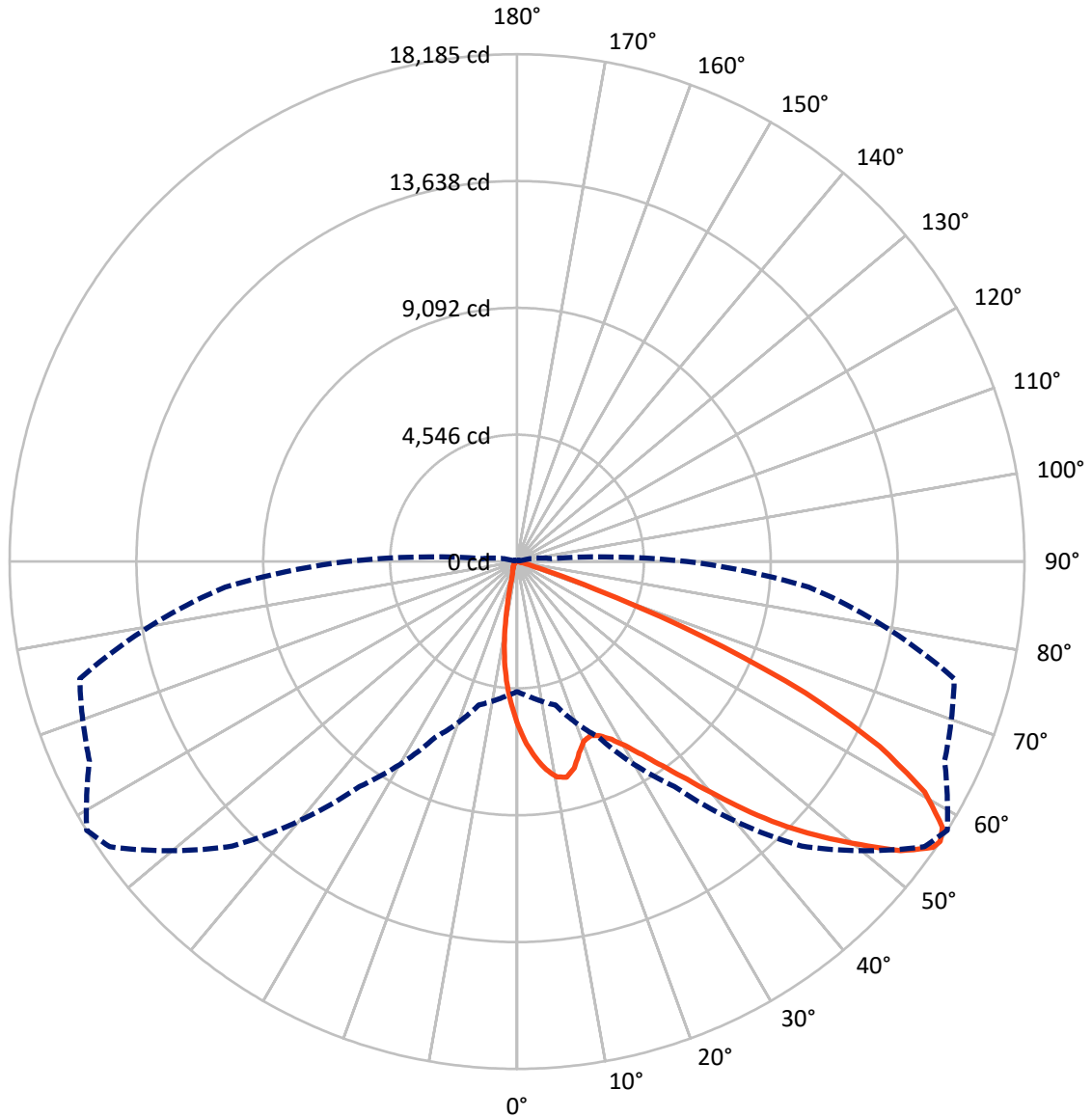
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.7 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 56-Deg Vertical

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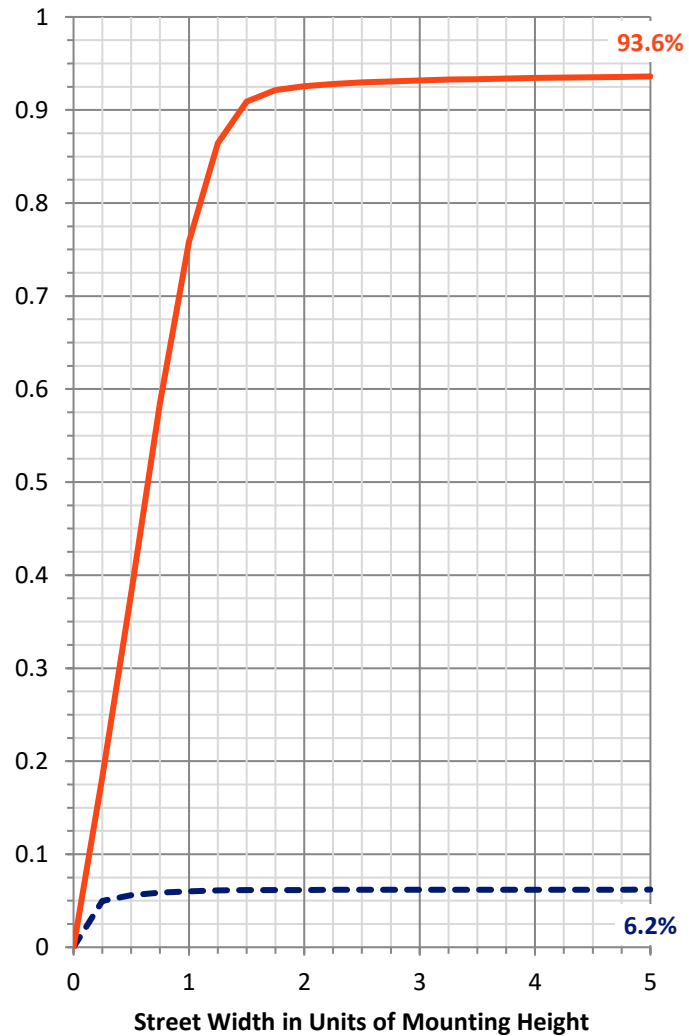
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1302.1	0.0	1302.1
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	19557.9	0.0	19557.9
	% Fixture	93.8	0.0	93.8
Total	Lumens	20860.0	0.0	20860.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	503.8	2.4
10°-20°	1172.3	5.6
20°-30°	1972.6	9.5
30°-40°	3377.9	16.2
40°-50°	5097.3	24.4
50°-60°	5298.5	25.4
60°-70°	2974.5	14.3
70°-80°	407.7	2.0
80°-90°	55.2	0.3
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°	20860.0	100.0
0°-180°	20860.0	100.0



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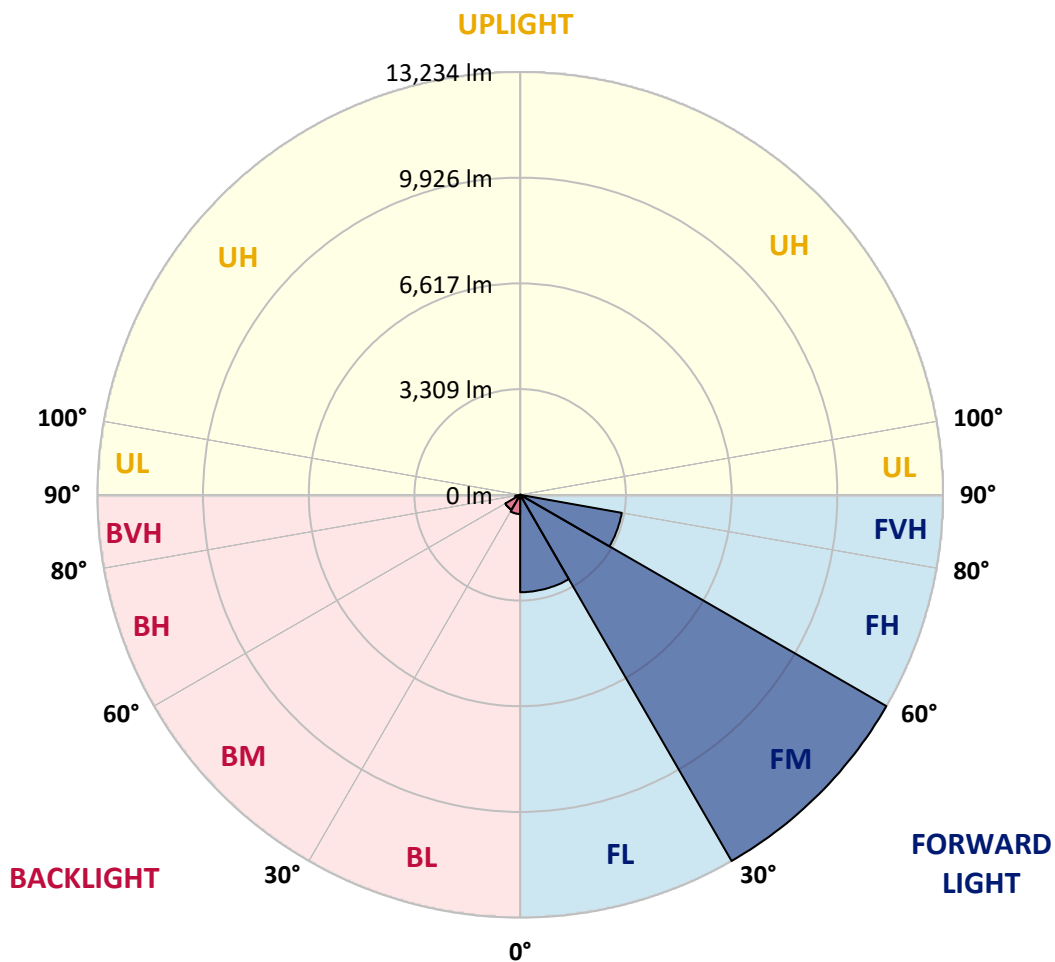
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3048.1	14.6			
FM	(30°-60°)	13234.5	63.4			
FH	(60°-80°)	3227.7	15.5			G2/5000
FVH	(80°-90°)	47.6	0.2			G1/100
BL	(0°-30°)	600.7	2.9	B2/1000		
BM	(30°-60°)	539.4	2.6	B1/1000		
BH	(60°-80°)	154.4	0.7	B1/500		G1/500
BVH	(80°-90°)	7.6	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	5906.1	5906.1	5906.1	5906.1	5906.1	5906.1	5906.1	5906.1	5906.1	5906.1	5906.1
2.5°	7106.1	7063.2	7018.6	6935.8	6859.4	6741.7	6579.3	6539.5	6412.2	6202.2	6006.4
5°	7718.9	7710.9	7680.6	7613.8	7531.1	7387.8	7204.7	7082.2	6884.9	6553.8	6176.7
7.5°	7355.9	7422.8	7532.6	7688.6	7793.7	7779.3	7639.3	7532.6	7336.9	6884.9	6343.7
10°	6200.5	6213.3	6364.5	6692.3	7211.2	7694.9	7877.9	7849.3	7669.5	7174.6	6490.2
12.5°	5793.1	5801.1	5836.0	5941.1	6278.6	6953.3	7782.5	7932.1	7917.7	7451.5	6646.1
15°	5824.9	5829.7	5839.2	5872.7	5968.2	6307.2	7298.7	7679.1	8076.9	7714.1	6798.9
17.5°	6076.4	6073.3	6043.0	6011.2	6041.3	6152.7	6805.3	7206.4	8043.5	7935.2	6924.7
20°	6566.6	6582.5	6480.6	6339.0	6265.8	6270.6	6561.8	6862.6	7855.8	8107.2	7018.6
22.5°	7255.7	7266.8	7099.7	6854.7	6639.8	6531.5	6612.8	6771.8	7639.3	8266.4	7095.0
25°	8078.5	8078.5	7844.6	7496.0	7163.4	6926.3	6856.2	6916.7	7556.5	8446.2	7171.4
27.5°	8966.6	8998.4	8692.8	8236.1	7796.8	7449.8	7230.2	7219.1	7620.2	8672.2	7257.3
30°	9932.6	9961.3	9598.4	9039.8	8519.3	8075.4	7737.9	7664.8	7863.6	8976.1	7383.0
32.5°	10893.9	10917.7	10516.8	9947.0	9340.6	8818.6	8374.5	8258.4	8301.3	9420.1	7567.7
35°	12116.1	12120.9	11613.3	10935.2	10287.5	9674.8	9113.0	8998.4	8950.6	9980.4	7833.5
37.5°	13088.6	13050.4	12728.9	12087.5	11344.3	10704.5	10044.0	9894.4	9779.8	10768.2	8245.6
40°	13317.8	13317.8	13270.0	13077.4	12487.0	11871.0	11231.3	11008.5	10755.4	11696.0	8799.4
42.5°	12720.9	12759.2	13074.2	13492.8	13497.6	13102.9	12477.4	12289.6	11844.0	12752.8	9404.3
45°	11385.6	11396.8	12152.8	13282.7	14049.8	14275.9	13814.3	13554.9	12937.4	13851.0	9958.1
47.5°	10905.1	10940.0	11261.6	12643.0	14091.2	15226.0	15097.1	14740.6	13949.6	14853.6	10475.3
50°	10166.6	10209.6	10602.7	11700.8	13718.8	15835.6	16324.1	15942.2	14871.0	15689.1	10731.6
52.5°	8400.0	8466.9	9022.3	10454.7	12787.8	15861.1	17447.8	17218.6	15814.8	16136.3	10701.3
55°	5780.4	5829.7	6477.4	8161.3	10909.8	15082.8	17931.6	18089.1	16656.8	16236.6	10554.9
56°	4663.1	4847.8	5322.0	6953.3	9840.3	14420.6	17820.1	18184.6	16906.6	16220.7	10491.3
57.5°	3082.8	3117.7	3635.1	5038.7	7901.9	12983.6	17317.2	17980.9	17228.1	16139.5	10445.0
60°	1449.8	1465.8	1652.0	2325.2	4276.3	9461.6	15682.8	16784.1	17345.9	15969.2	10443.5
62.5°	945.3	948.6	970.8	1109.3	1749.0	5153.3	13001.1	14586.3	16370.3	15950.2	10413.2
65°	778.3	786.2	759.1	776.6	915.1	1943.2	9170.2	11371.3	14080.1	15501.3	10072.7
67.5°	686.0	687.5	650.9	630.2	670.0	853.0	4620.2	7172.9	10531.1	13171.3	8296.5
70°	625.4	623.9	582.5	534.8	536.3	566.6	1505.6	2979.3	5826.5	7820.7	4763.4
72.5°	555.5	558.6	534.8	467.9	445.6	401.1	566.6	803.7	1983.0	2511.4	1255.7
75°	487.0	480.7	456.7	413.8	372.5	268.9	284.9	342.2	517.2	512.5	270.6
77.5°	369.2	362.8	374.0	353.3	291.2	187.8	156.0	178.3	233.9	218.0	109.9
80°	281.7	278.5	254.6	302.4	265.8	141.7	106.6	109.9	127.4	116.2	54.1
82.5°	203.7	202.1	192.6	186.2	168.7	103.4	81.1	85.9	95.4	81.1	39.8
85°	77.9	77.9	151.2	127.4	116.2	70.1	57.3	62.1	73.2	58.9	27.0
87.5°	12.7	12.7	101.9	84.4	52.5	35.0	36.6	39.8	43.0	35.0	20.7
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°	5906.1	5906.1	5906.1	5906.1	5906.1	5906.1	5906.1	5906.1	5906.1	5906.1	5906.1
2.5°	5890.2	5783.6	5549.6	5323.6	5126.2	4909.9	4800.0	4672.6	4625.0	4529.4	4539.0
5°	5950.7	5727.8	5258.4	4763.4	4309.8	3848.2	3520.4	3211.7	3039.8	2869.5	2869.5
7.5°	6012.7	5672.2	4946.4	4155.4	3391.5	2600.5	2040.3	1591.5	1341.6	1174.6	1169.7
10°	6055.7	5600.6	4591.5	3450.4	2323.6	1340.1	808.4	636.6	574.5	547.5	545.8
12.5°	6111.4	5528.9	4187.2	2619.7	1290.8	636.6	504.5	477.4	466.4	459.9	459.9
15°	6159.2	5427.1	3697.0	1761.8	678.0	477.4	434.4	424.9	423.3	421.8	423.3
17.5°	6170.3	5282.2	3109.8	1031.3	491.7	417.0	397.9	389.9	389.9	388.3	388.3
20°	6144.9	5091.2	2460.5	636.6	424.9	383.5	362.8	353.3	351.7	351.7	351.7
22.5°	6092.3	4847.8	1819.1	482.2	386.8	353.3	326.2	316.7	316.7	318.3	319.9
25°	6027.0	4559.7	1249.3	415.4	358.1	321.5	294.4	284.9	288.1	291.2	292.9
27.5°	5944.3	4215.9	818.1	359.7	319.9	289.7	265.8	259.4	265.8	272.1	275.4
30°	5861.5	3838.7	553.8	311.9	276.9	254.6	240.3	238.8	248.3	262.6	264.2
32.5°	5807.4	3451.9	418.6	280.1	243.5	224.4	218.0	221.3	235.6	251.4	254.6
35°	5802.7	3074.8	356.5	254.6	221.3	203.7	200.5	210.1	226.0	238.8	241.9
37.5°	5877.5	2721.5	323.0	235.6	203.7	186.2	181.5	199.0	213.3	226.0	229.1
40°	6028.7	2404.8	300.7	218.0	189.3	168.7	165.5	179.8	194.2	208.5	213.3
42.5°	6218.0	2108.7	275.4	200.5	173.5	149.6	146.4	157.5	171.9	192.6	195.8
45°	6382.0	1833.4	248.3	181.5	156.0	128.9	127.4	140.0	151.2	170.3	173.5
47.5°	6520.4	1604.3	222.8	160.7	133.7	114.6	113.0	119.4	125.7	143.2	146.4
50°	6447.2	1410.0	197.3	132.1	108.2	98.7	97.1	97.1	105.1	122.5	125.7
52.5°	6267.4	1289.1	173.5	109.9	89.1	84.4	79.6	81.1	89.1	97.1	98.7
55°	6122.6	1231.8	152.8	97.1	74.8	70.1	65.3	63.6	65.3	62.1	58.9
56°	6087.6	1225.5	148.0	93.9	71.6	65.3	58.9	55.8	54.1	47.8	46.1
57.5°	6071.6	1225.5	140.0	87.6	66.8	58.9	50.9	44.6	38.2	33.5	33.5
60°	6058.8	1233.4	130.5	76.4	57.3	47.8	36.6	27.0	22.3	22.3	22.3
62.5°	6031.8	1230.2	119.4	63.6	49.3	36.6	22.3	17.5	16.0	17.5	19.1
65°	5727.8	1142.7	105.1	50.9	38.2	25.5	12.7	12.7	14.3	17.5	19.1
67.5°	4615.3	865.8	85.9	39.8	27.0	19.1	11.2	11.2	14.3	17.5	19.1
70°	2535.3	456.7	73.2	28.6	20.7	16.0	11.2	9.5	14.3	17.5	19.1
72.5°	619.1	191.0	66.8	22.3	19.1	14.3	9.5	9.5	14.3	17.5	19.1
75°	152.8	143.2	54.1	17.5	16.0	12.7	9.5	9.5	14.3	17.5	19.1
77.5°	71.6	189.3	36.6	16.0	14.3	11.2	9.5	9.5	14.3	17.5	17.5
80°	43.0	143.2	22.3	14.3	12.7	11.2	9.5	9.5	14.3	17.5	19.1
82.5°	25.5	41.4	16.0	14.3	12.7	9.5	9.5	9.5	14.3	17.5	19.1
85°	22.3	20.7	16.0	14.3	12.7	11.2	9.5	9.5	16.0	19.1	19.1
87.5°	17.5	16.0	14.3	12.7	12.7	11.2	9.5	9.5	14.3	17.5	19.1
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)