

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: FAIL-SAFE

Report Number: P392643

Luminaire Tested: **MWL-4-26-33-UNV-L930-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392643
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-1 &
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-4-26-33-UNV-L930-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

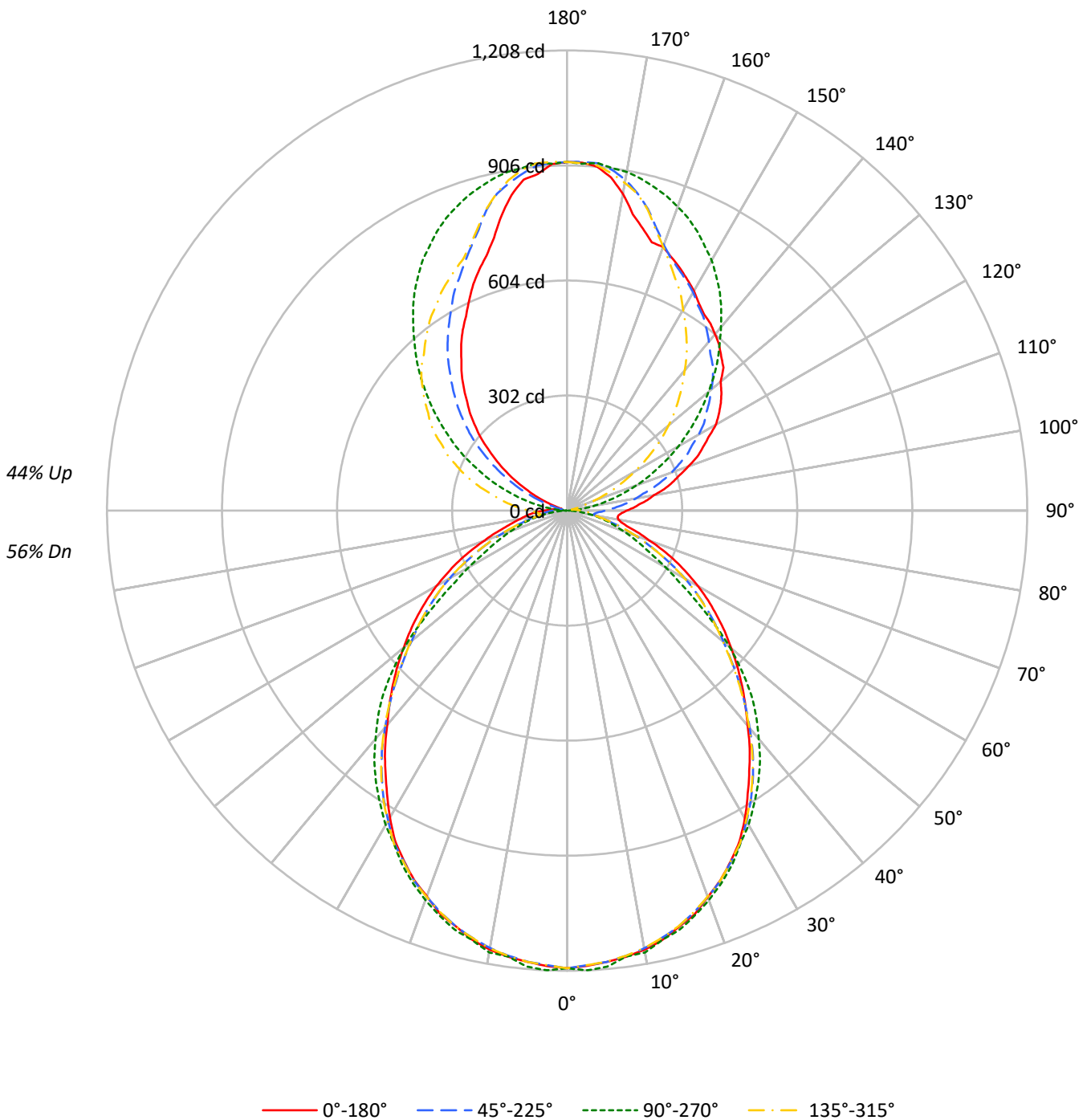
Lumens per Lamp: N/A
Luminaire Lumens: 5014.4 lumens
Efficiency: N/A
Efficacy: 87.1 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: General Diffuse

Input Watts (W): 57.57
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



TEST NUMBER: P392643
CATALOG NUMBER: MWL-4-26-33-UNV-L930-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P392643

CATALOG NUMBER: MWL-4-26-33-UNV-L930-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	99	95	91	88	92	88	85	82	76	74	72	65	63	62	55	54	52	48
2	91	83	77	72	84	78	72	68	67	63	60	58	55	52	49	47	45	40
3	83	74	66	61	77	69	62	57	60	55	51	51	48	44	43	41	38	35
4	76	65	58	52	71	61	54	49	53	48	44	46	42	38	39	36	33	30
5	70	58	50	44	65	55	48	42	48	42	38	41	37	34	35	32	29	26
6	65	53	45	39	60	49	42	37	43	37	33	38	33	30	32	29	26	23
7	60	48	40	34	56	45	38	33	39	34	29	34	30	26	29	26	23	21
8	56	43	36	30	52	41	34	29	36	30	26	31	27	24	27	24	21	19
9	52	40	32	27	48	37	31	26	33	27	24	29	24	21	25	22	19	17
10	49	36	29	24	45	34	28	23	31	25	21	27	22	19	23	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	7759	7759	7759	7759
5°	7641	7166	7641	7166
10°	7536	6566	7536	6566
15°	7361	6007	7349	6007
20°	7147	5482	7134	5482
25°	6905	4983	6892	4983
30°	6565	4504	6547	4504
35°	6126	4053	6112	4053
40°	5716	3587	5697	3587
45°	5367	3122	5350	3122
50°	5021	2554	5003	2554
55°	4696	1910	4683	1910
60°	4339	1412	4331	1412
65°	3920	1050	3920	1050
70°	3381	786	3391	786
75°	2970	578	3004	578
80°	3194	371	2906	371
85°	4594	170	3176	170



TEST NUMBER: P392643

CATALOG NUMBER: MWL-4-26-33-UNV-L930-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.1	2.3
10°-20°	319.2	6.4
20°-30°	468.9	9.4
30°-40°	532.7	10.6
40°-50°	501.9	10.0
50°-60°	400.5	8.0
60°-70°	264.2	5.3
70°-80°	138.1	2.8
80°-90°	75.5	1.5
90°-100°	84.7	1.7
100°-110°	144.4	2.9
110°-120°	243.7	4.9
120°-130°	330.9	6.6
130°-140°	377.2	7.5
140°-150°	376.1	7.5
150°-160°	327.4	6.5
160°-170°	230.3	4.6
170°-180°	85.8	1.7
0°-30°	901.2	18.0
0°-40°	1433.9	28.6
0°-60°	2336.2	46.6
0°-90°	2813.9	56.1
90°-120°	472.8	9.4
90°-150°	1557.0	31.1
90°-180°	2200.0	43.9
0°-180°	5014.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1201	1201	1201	1201	1201	
5°	1189	1202	1189	1202	1189	113
15°	1132	1139	1130	1139	1132	319
25°	1016	1025	1014	1025	1016	467
35°	834	874	832	874	834	522
45°	649	684	647	684	649	501
55°	479	412	478	412	479	429
65°	314	216	314	216	314	310
75°	165	110	167	110	165	183
85°	136	28	94	28	136	112
90°	156	2	59	2	156	86
95°	190	27	37	27	190	165
105°	286	128	15	128	286	302
115°	394	262	92	262	394	391
125°	492	410	225	410	492	440
135°	572	559	360	559	572	441
145°	628	699	484	699	628	396
155°	702	809	609	809	702	324
165°	767	880	742	880	767	217
175°	906	916	887	916	906	84
180°	915	915	915	915	915	



TEST NUMBER: P392643

CATALOG NUMBER: MWL-4-26-33-UNV-L930-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4
2.5°	1196.1	1194.8	1194.4	1201.0	1207.8	1200.3	1194.4	1194.8	1196.7	1194.8	1194.4
5°	1189.3	1190.6	1189.3	1197.0	1202.0	1197.0	1188.7	1190.6	1189.3	1190.6	1188.7
7.5°	1181.5	1184.4	1179.3	1186.8	1180.8	1186.1	1178.7	1183.8	1181.5	1183.8	1178.7
10°	1170.3	1170.0	1166.7	1174.2	1177.7	1173.7	1166.0	1168.8	1170.3	1168.8	1166.0
12.5°	1154.7	1149.8	1149.1	1154.2	1154.4	1154.2	1149.1	1148.5	1153.4	1148.5	1149.1
15°	1131.7	1134.5	1130.6	1135.7	1139.2	1135.0	1129.9	1133.3	1129.8	1133.3	1129.9
17.5°	1111.4	1110.9	1106.1	1109.6	1114.7	1109.6	1105.4	1110.3	1109.4	1110.3	1105.4
20°	1079.3	1081.2	1079.1	1087.7	1087.9	1087.1	1078.3	1079.8	1077.3	1079.8	1078.3
22.5°	1050.7	1052.4	1051.9	1052.1	1058.3	1051.6	1051.3	1051.1	1049.5	1051.1	1051.3
25°	1016.0	1016.0	1017.1	1026.8	1025.3	1026.2	1015.8	1014.1	1014.1	1014.1	1015.8
27.5°	979.7	978.0	984.9	991.1	984.8	990.5	983.7	976.0	977.8	976.0	983.7
30°	933.2	934.9	941.7	957.0	952.7	955.8	939.8	933.0	930.7	933.0	939.8
32.5°	882.5	889.3	898.6	919.0	913.5	917.7	896.6	886.8	880.0	886.8	896.6
35°	833.7	836.2	850.6	875.0	874.1	873.2	848.7	834.4	831.8	834.4	848.7
37.5°	787.2	782.9	800.7	826.9	831.5	825.0	798.8	781.1	785.3	781.1	798.8
40°	737.3	738.1	745.8	777.3	782.5	776.0	743.2	735.6	734.8	735.6	743.2
42.5°	692.5	684.1	691.0	723.2	735.2	721.9	689.1	681.5	690.0	681.5	689.1
45°	648.8	637.8	638.6	666.5	683.6	665.3	636.1	635.9	646.8	635.9	636.1
47.5°	605.7	592.1	585.4	607.5	621.9	606.9	582.8	590.2	603.8	590.2	582.8
50°	561.8	549.1	535.5	549.3	557.1	547.9	532.9	546.4	559.8	546.4	532.9
52.5°	521.2	506.8	490.1	491.8	483.6	490.5	488.1	504.2	519.2	504.2	488.1
55°	479.1	466.4	445.3	432.0	411.9	430.7	443.3	464.5	477.8	464.5	443.3
57.5°	438.5	429.2	402.1	375.4	348.5	374.0	400.2	427.3	437.3	427.3	400.2
60°	396.5	388.9	357.7	318.9	298.6	318.2	356.3	387.5	395.8	387.5	356.3
62.5°	354.2	348.3	312.0	267.3	251.5	266.7	310.6	347.0	353.5	347.0	310.6
65°	313.8	304.6	267.3	225.1	216.0	224.4	266.7	303.9	313.8	303.9	266.7
67.5°	272.4	261.4	225.9	187.2	185.5	187.2	225.2	260.7	272.4	260.7	225.2
70°	230.3	219.3	188.1	155.1	155.9	155.1	188.1	220.0	231.0	220.0	188.1
72.5°	198.2	179.6	154.3	128.0	131.7	127.5	154.3	180.3	199.5	180.3	154.3
75°	165.3	144.9	121.5	102.1	109.7	102.1	122.1	145.6	167.2	145.6	122.1
77.5°	146.7	121.3	94.5	81.8	86.9	81.8	95.1	119.4	144.2	119.4	95.1
80°	136.6	108.5	75.3	61.5	66.6	61.5	74.0	98.1	124.3	98.1	74.0
82.5°	133.5	107.4	70.4	43.8	46.3	43.8	62.6	84.2	108.9	84.2	62.6
85°	135.8	114.1	75.2	35.6	28.5	34.3	56.5	74.8	93.9	74.8	56.5
87.5°	143.8	127.0	84.7	37.6	7.6	28.5	47.8	65.0	77.3	65.0	47.8
90°	156.3	143.0	101.1	44.4	1.5	19.9	37.2	52.0	59.4	52.0	37.2
92.5°	174.5	163.4	117.4	56.8	11.2	12.2	29.0	44.0	48.0	44.0	29.0
95°	190.5	186.6	139.2	70.5	26.6	6.0	23.1	36.8	37.4	36.8	23.1
97.5°	212.9	208.8	160.9	91.2	46.7	8.6	18.2	31.3	32.2	31.3	18.2
100°	231.2	228.9	183.1	119.0	71.1	22.2	12.1	26.3	28.0	26.3	12.1
102.5°	261.3	251.0	204.5	145.4	97.6	40.9	12.2	18.7	21.2	18.7	12.2
105°	286.3	274.8	235.3	173.2	127.9	66.0	26.9	15.4	14.6	15.4	26.9
107.5°	309.1	300.1	263.7	201.5	160.3	95.1	48.8	26.4	20.0	26.4	48.8
110°	338.7	330.2	291.5	230.9	193.8	126.9	74.0	46.2	36.8	46.2	74.0



TEST NUMBER: P392643

CATALOG NUMBER: MWL-4-26-33-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	369.8	363.1	317.3	260.5	228.7	160.4	105.0	72.0	63.2	72.0	105.0
115°	393.6	389.5	347.0	288.2	261.8	198.6	139.1	102.3	91.7	102.3	139.1
117.5°	418.9	418.2	368.9	316.6	300.5	232.8	170.8	133.6	121.3	133.6	170.8
120°	450.5	445.3	399.3	345.0	337.3	268.9	205.7	168.4	156.1	168.4	205.7
122.5°	472.4	469.2	425.9	372.2	372.2	305.6	240.0	201.9	189.0	201.9	240.0
125°	492.5	491.1	445.3	399.3	409.6	339.9	277.4	238.8	224.6	238.8	277.4
127.5°	510.4	512.4	470.5	429.0	447.6	374.7	314.3	271.6	256.8	271.6	314.3
130°	526.0	532.4	494.4	456.1	483.8	412.8	347.2	304.7	294.9	304.7	347.2
132.5°	556.3	552.4	518.9	484.6	522.5	448.4	382.0	337.5	326.5	337.5	382.0
135°	571.8	573.0	540.2	508.6	558.7	483.4	414.9	371.0	360.0	371.0	414.9
137.5°	590.5	586.6	556.9	537.5	592.2	516.9	447.2	406.5	389.2	406.5	447.2
140°	604.1	603.4	578.9	563.4	628.3	549.8	480.1	438.8	422.7	438.8	480.1
142.5°	618.3	622.1	600.8	591.9	664.5	584.7	515.7	470.5	455.0	470.5	515.7
145°	627.9	636.2	622.8	627.4	698.8	623.5	546.6	500.8	484.0	500.8	546.6
147.5°	644.1	655.1	638.9	652.5	728.4	657.6	577.6	532.4	517.6	532.4	577.6
150°	666.0	671.2	661.5	687.3	758.7	695.7	609.2	562.7	547.8	562.7	609.2
152.5°	683.4	689.9	678.9	725.4	782.6	730.6	644.1	592.4	575.0	592.4	644.1
155°	701.6	704.0	696.4	762.2	808.7	764.8	671.8	625.4	608.6	625.4	671.8
157.5°	718.3	723.4	714.3	790.0	830.6	794.5	703.5	658.3	643.4	658.3	703.5
160°	736.4	736.4	741.6	822.2	848.7	820.3	737.1	694.5	673.8	694.5	737.1
162.5°	738.3	750.5	778.3	844.8	866.1	842.9	773.2	720.2	702.1	720.2	773.2
165°	766.7	777.7	819.7	864.8	879.6	862.9	817.6	762.8	741.6	762.8	817.6
167.5°	796.4	819.7	853.2	887.4	892.6	881.6	851.9	813.8	794.5	813.8	851.9
170°	844.0	864.0	881.6	895.7	902.9	896.4	873.2	853.6	841.3	853.6	873.2
172.5°	882.0	895.7	902.2	911.2	906.7	904.2	892.6	883.5	876.3	883.5	892.6
175°	905.9	909.3	915.1	911.9	915.8	908.7	909.3	913.9	886.6	913.9	909.3
177.5°	914.3	919.7	916.4	910.6	911.2	910.0	912.6	915.1	910.4	915.1	912.6
180°	915.1	915.1	915.1	915.1	915.1	915.1	915.1	915.1	915.1	915.1	915.1



TEST NUMBER: P392643

CATALOG NUMBER: MWL-4-26-33-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4
2.5°	1200.3	1207.8	1201.0	1194.4	1194.8	1196.1
5°	1197.0	1202.0	1197.0	1189.3	1190.6	1189.3
7.5°	1186.1	1180.8	1186.8	1179.3	1184.4	1181.5
10°	1173.7	1177.7	1174.2	1166.7	1170.0	1170.3
12.5°	1154.2	1154.4	1154.2	1149.1	1149.8	1154.7
15°	1135.0	1139.2	1135.7	1130.6	1134.5	1131.7
17.5°	1109.6	1114.7	1109.6	1106.1	1110.9	1111.4
20°	1087.1	1087.9	1087.7	1079.1	1081.2	1079.3
22.5°	1051.6	1058.3	1052.1	1051.9	1052.4	1050.7
25°	1026.2	1025.3	1026.8	1017.1	1016.0	1016.0
27.5°	990.5	984.8	991.1	984.9	978.0	979.7
30°	955.8	952.7	957.0	941.7	934.9	933.2
32.5°	917.7	913.5	919.0	898.6	889.3	882.5
35°	873.2	874.1	875.0	850.6	836.2	833.7
37.5°	825.0	831.5	826.9	800.7	782.9	787.2
40°	776.0	782.5	777.3	745.8	738.1	737.3
42.5°	721.9	735.2	723.2	691.0	684.1	692.5
45°	665.3	683.6	666.5	638.6	637.8	648.8
47.5°	606.9	621.9	607.5	585.4	592.1	605.7
50°	547.9	557.1	549.3	535.5	549.1	561.8
52.5°	490.5	483.6	491.8	490.1	506.8	521.2
55°	430.7	411.9	432.0	445.3	466.4	479.1
57.5°	374.0	348.5	375.4	402.1	429.2	438.5
60°	318.2	298.6	318.9	357.7	388.9	396.5
62.5°	266.7	251.5	267.3	312.0	348.3	354.2
65°	224.4	216.0	225.1	267.3	304.6	313.8
67.5°	187.2	185.5	187.2	225.9	261.4	272.4
70°	155.1	155.9	155.1	188.1	219.3	230.3
72.5°	127.5	131.7	128.0	154.3	179.6	198.2
75°	102.1	109.7	102.1	121.5	144.9	165.3
77.5°	81.8	86.9	81.8	94.5	121.3	146.7
80°	61.5	66.6	61.5	75.3	108.5	136.6
82.5°	43.8	46.3	43.8	70.4	107.4	133.5
85°	34.3	28.5	35.6	75.2	114.1	135.8
87.5°	28.5	7.6	37.6	84.7	127.0	143.8
90°	19.9	1.5	44.4	101.1	143.0	156.3
92.5°	12.2	11.2	56.8	117.4	163.4	174.5
95°	6.0	26.6	70.5	139.2	186.6	190.5
97.5°	8.6	46.7	91.2	160.9	208.8	212.9
100°	22.2	71.1	119.0	183.1	228.9	231.2
102.5°	40.9	97.6	145.4	204.5	251.0	261.3
105°	66.0	127.9	173.2	235.3	274.8	286.3
107.5°	95.1	160.3	201.5	263.7	300.1	309.1
110°	126.9	193.8	230.9	291.5	330.2	338.7



TEST NUMBER: P392643

CATALOG NUMBER: MWL-4-26-33-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	160.4	228.7	260.5	317.3	363.1	369.8
115°	198.6	261.8	288.2	347.0	389.5	393.6
117.5°	232.8	300.5	316.6	368.9	418.2	418.9
120°	268.9	337.3	345.0	399.3	445.3	450.5
122.5°	305.6	372.2	372.2	425.9	469.2	472.4
125°	339.9	409.6	399.3	445.3	491.1	492.5
127.5°	374.7	447.6	429.0	470.5	512.4	510.4
130°	412.8	483.8	456.1	494.4	532.4	526.0
132.5°	448.4	522.5	484.6	518.9	552.4	556.3
135°	483.4	558.7	508.6	540.2	573.0	571.8
137.5°	516.9	592.2	537.5	556.9	586.6	590.5
140°	549.8	628.3	563.4	578.9	603.4	604.1
142.5°	584.7	664.5	591.9	600.8	622.1	618.3
145°	623.5	698.8	627.4	622.8	636.2	627.9
147.5°	657.6	728.4	652.5	638.9	655.1	644.1
150°	695.7	758.7	687.3	661.5	671.2	666.0
152.5°	730.6	782.6	725.4	678.9	689.9	683.4
155°	764.8	808.7	762.2	696.4	704.0	701.6
157.5°	794.5	830.6	790.0	714.3	723.4	718.3
160°	820.3	848.7	822.2	741.6	736.4	736.4
162.5°	842.9	866.1	844.8	778.3	750.5	738.3
165°	862.9	879.6	864.8	819.7	777.7	766.7
167.5°	881.6	892.6	887.4	853.2	819.7	796.4
170°	896.4	902.9	895.7	881.6	864.0	844.0
172.5°	904.2	906.7	911.2	902.2	895.7	882.0
175°	908.7	915.8	911.9	915.1	909.3	905.9
177.5°	910.0	911.2	910.6	916.4	919.7	914.3
180°	915.1	915.1	915.1	915.1	915.1	915.1

(END OF REPORT)