

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: McGRAW-EDISON

Report Number: P821136

Luminaire Tested: **TT-D2-830-24VDC-MQ-UPL**

Issue Date: 7/23/2020

Test Information

Test Method: LM-79-08
Report Number: P821136
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G2-2002-677-2) AND
Test Lab: INNOVATION CENTER
Issue Date: 7/23/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: TT-D2-830-24VDC-MQ-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
3000K, 80 CRI LEDS AND MEDIUM DISTRIBUTION
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

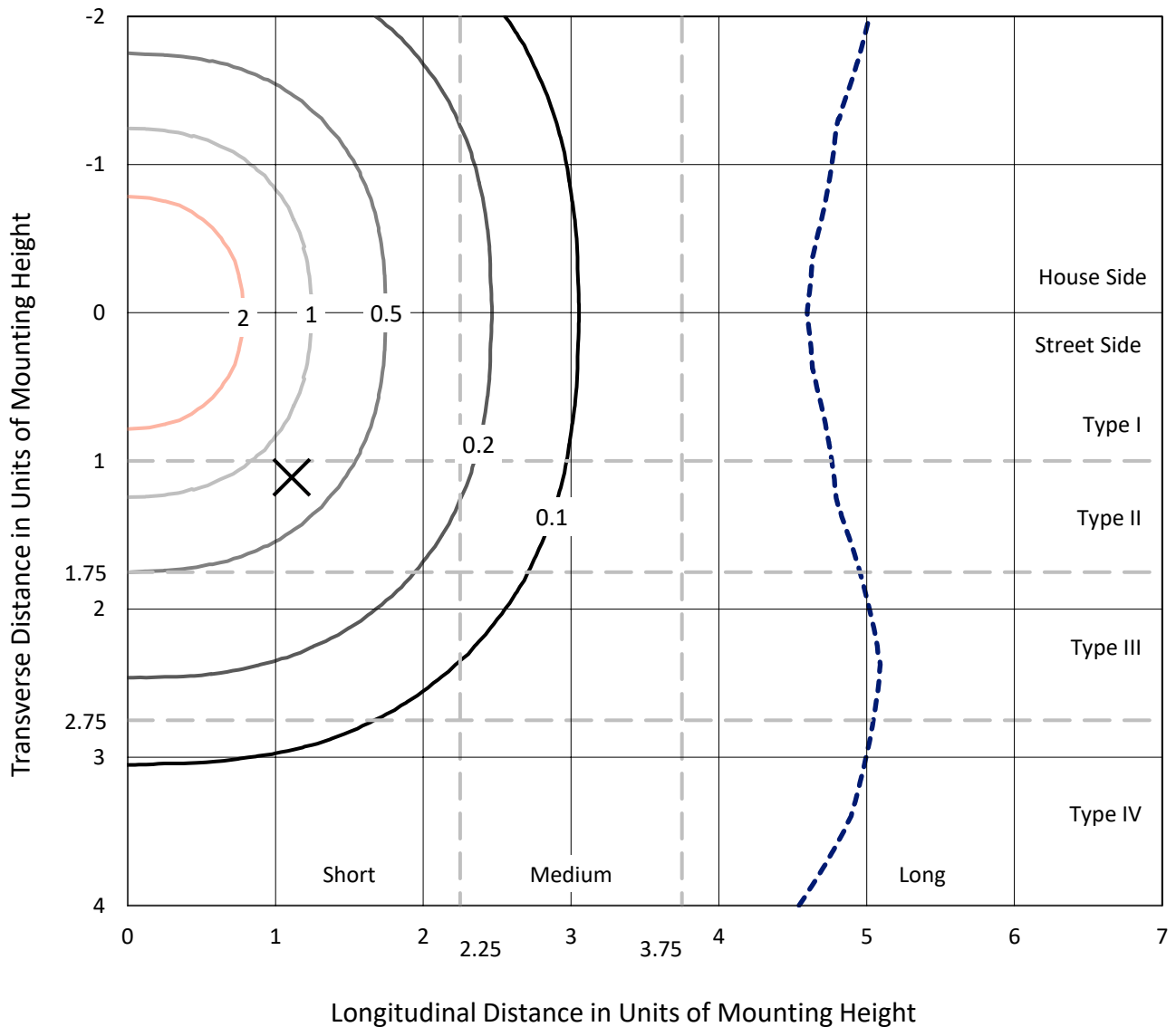
Lumens per Lamp: N/A
Luminaire Lumens: 5799.7 lumens
Efficiency: N/A
Efficacy: 152.6 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type V - Short
BUG Rating: B2 - U4 - G2

Input Watts (W): 38
Input Voltage (V): NR
Input Current (A_{in}): 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: P821136
 CATALOG NUMBER: TT-D2-830-24VDC-MQ-UPL

Iso-Footcandle Lines of Horizontal Illumination

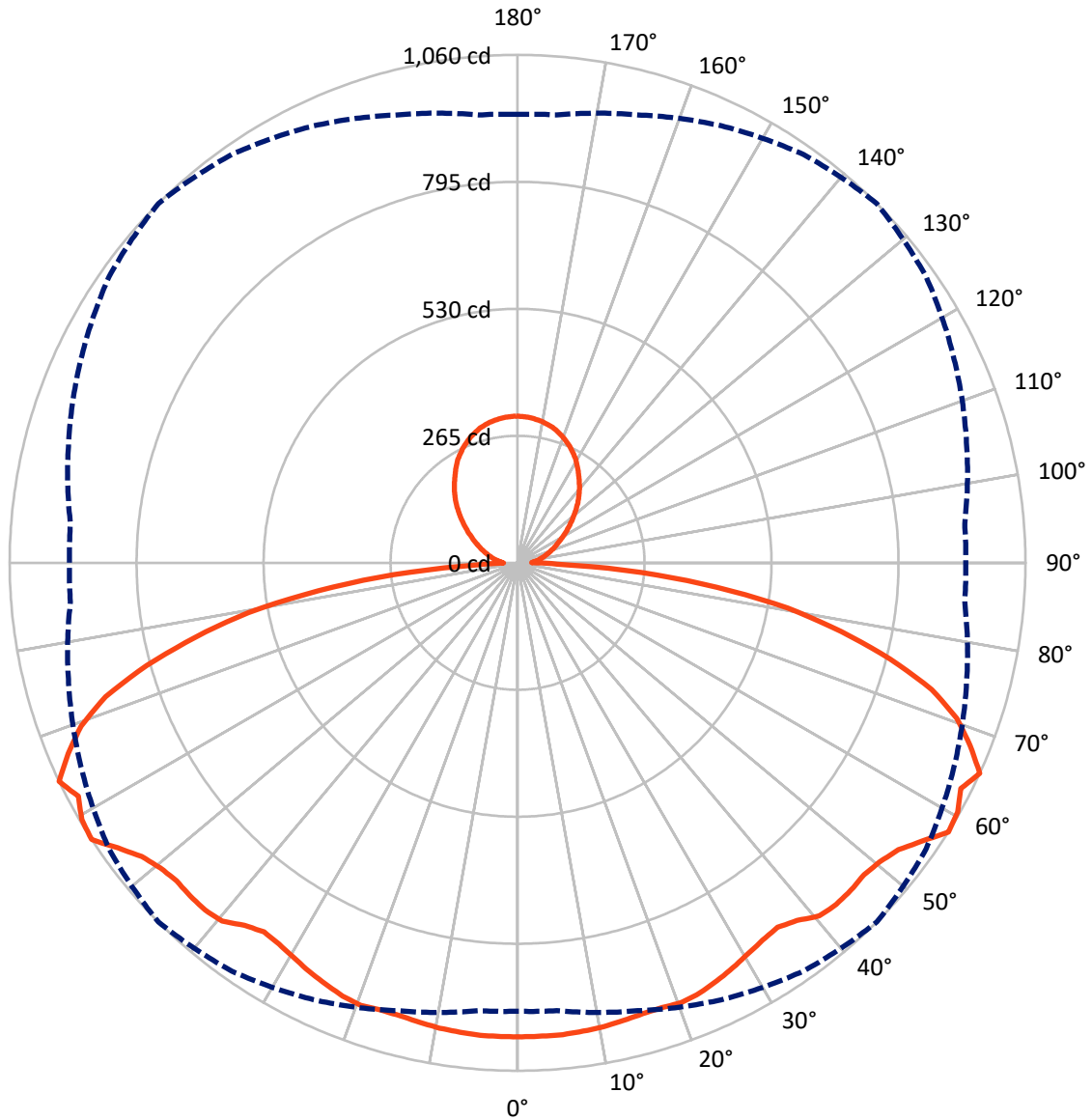
✕ Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 4.4 fc
 Type V - Short - N/A

REPORT NUMBER: P821136
CATALOG NUMBER: TT-D2-830-24VDC-MQ-UPL

Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 57.5-Deg Vertical

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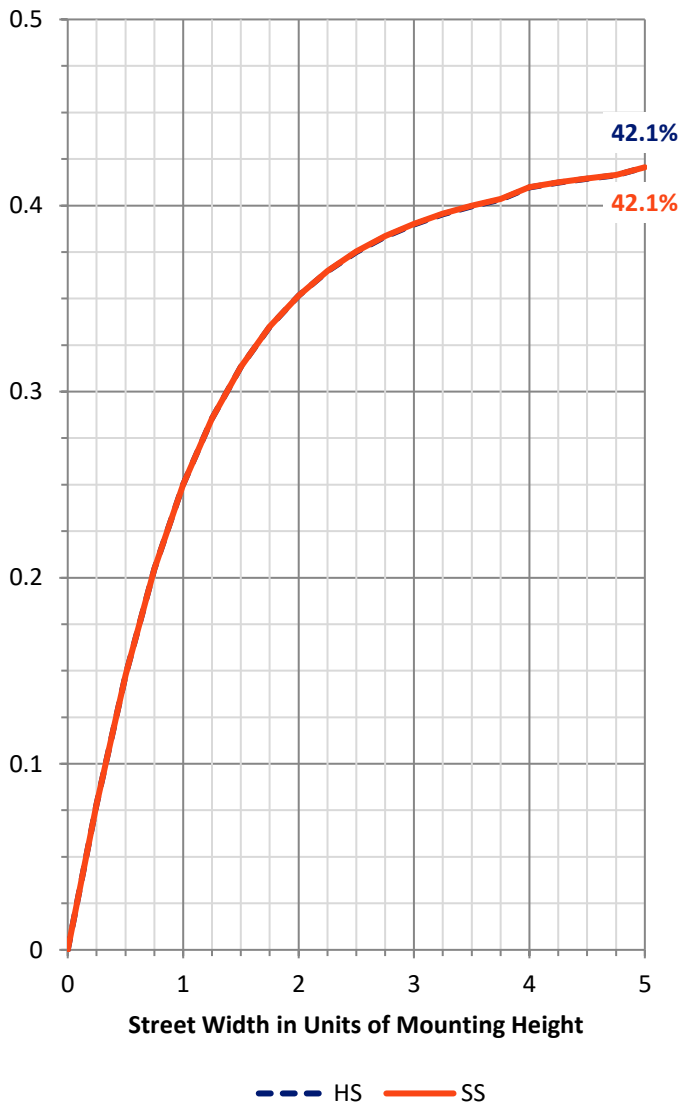
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2484.0	415.9	2899.9
	% Fixture	42.8	7.2	50.0
Street Side	Lumens	2484.0	415.9	2899.9
	% Fixture	42.8	7.2	50.0
Total	Lumens	4968.0	831.7	5799.7
	% Fixture	85.7	14.3	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.2	1.6
10°-20°	277.1	4.8
20°-30°	445.3	7.7
30°-40°	587.8	10.1
40°-50°	735.4	12.7
50°-60°	874.7	15.1
60°-70°	948.8	16.4
70°-80°	755.2	13.0
80°-90°	249.5	4.3
90°-100°	42.6	0.7
100°-110°	66.0	1.1
110°-120°	91.9	1.6
120°-130°	119.0	2.1
130°-140°	138.7	2.4
140°-150°	140.5	2.4
150°-160°	121.9	2.1
160°-170°	82.2	1.4
170°-180°	28.9	0.5
0°-90°	4968.0	85.7
0°-180°	5799.7	100.0

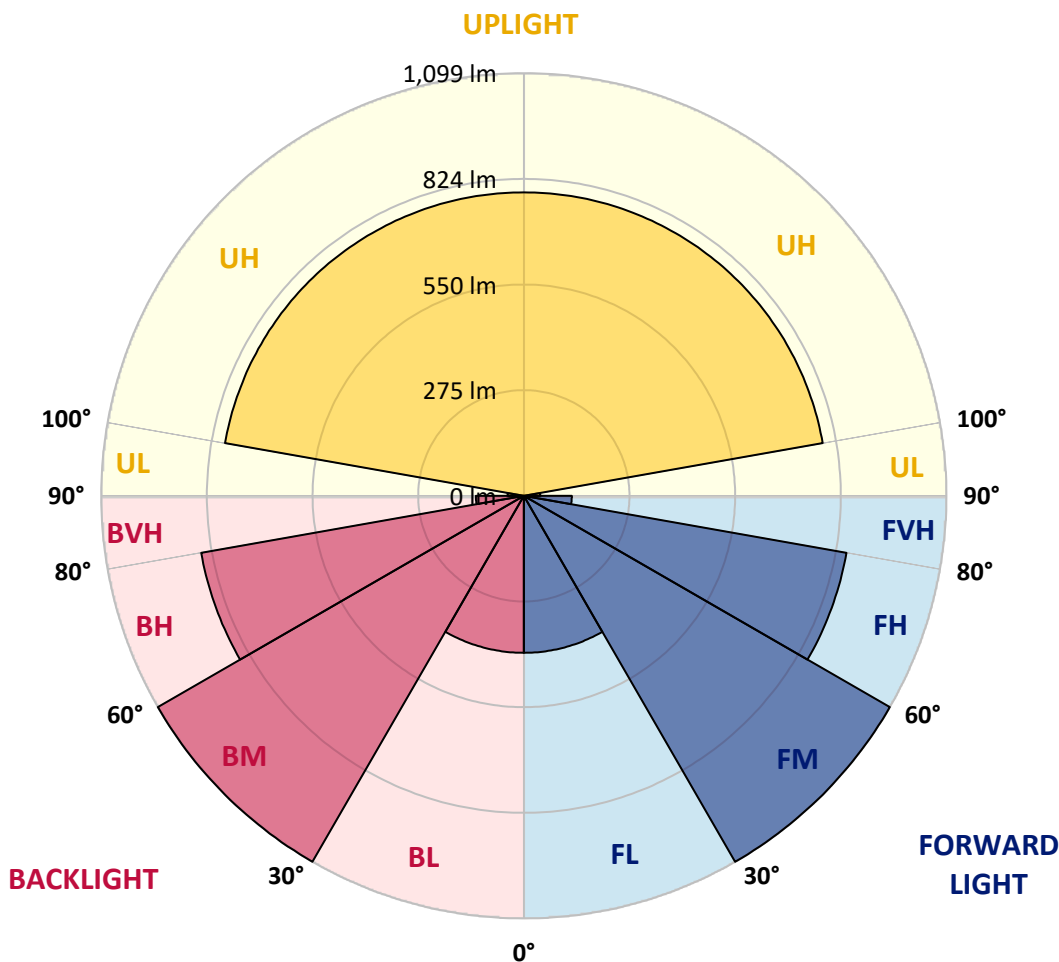


REPORT NUMBER: P821136
 CATALOG NUMBER: TT-D2-830-24VDC-MQ-UPL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	408.3	7.0			
FM (30°-60°)	1099.0	18.9			
FH (60°-80°)	852.0	14.7			G1/1800
FVH (80°-90°)	124.7	2.2			G2/225
BL (0°-30°)	408.3	7.0	B1/500		
BM (30°-60°)	1099.0	18.9	B2/2500		
BH (60°-80°)	852.0	14.7	B2/1000		G1/1800
BVH (80°-90°)	124.7	2.2			G2/225
UL (90°-100°)	42.6	0.7		U2/50	
UH (100°-180°)	789.1	13.6		U4/1000	

BUG Rating: B2-U4-G2
 Type V Short





REPORT NUMBER: P821136

CATALOG NUMBER: TT-D2-830-24VDC-MQ-UPL

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	988.7	988.7	988.7	988.7	988.7	988.7	988.7	988.7	988.7	988.7	988.7
2.5°	990.2	989.4	990.2	989.4	989.4	988.7	989.4	989.4	989.4	989.4	989.4
5°	989.4	988.7	988.7	989.4	988.7	988.7	988.7	988.7	988.7	988.7	988.7
7.5°	986.5	986.5	987.2	986.5	986.5	986.5	986.5	986.5	986.5	987.2	987.2
10°	984.2	983.5	984.2	984.2	983.5	984.2	983.5	984.2	984.2	984.2	984.2
12.5°	981.3	980.6	981.3	981.3	980.6	979.8	980.6	980.6	981.3	981.3	981.3
15°	976.1	976.1	977.6	976.9	976.9	976.1	977.6	976.9	976.1	976.9	976.9
17.5°	972.4	972.4	973.9	975.4	975.4	975.4	975.4	974.6	973.2	973.9	972.4
20°	973.2	973.9	974.6	976.9	978.3	979.1	979.1	976.9	974.6	975.4	974.6
22.5°	971.0	970.2	971.0	972.4	974.6	974.6	974.6	971.7	971.0	970.2	970.2
25°	962.1	962.1	963.6	965.0	966.5	965.8	966.5	965.0	963.6	962.1	962.1
27.5°	951.8	951.8	954.0	955.4	956.9	956.9	956.2	954.7	954.0	952.5	951.8
30°	941.4	941.4	943.6	945.1	947.3	946.6	946.6	944.4	942.2	940.7	940.7
32.5°	930.3	929.6	931.8	935.5	938.5	938.5	938.5	934.0	931.1	929.6	928.9
35°	920.7	920.7	923.7	930.3	934.0	934.0	932.6	929.6	923.0	920.7	920.7
37.5°	917.8	920.0	928.1	937.7	945.1	946.6	944.4	936.3	927.4	920.7	918.5
40°	927.4	929.6	939.9	955.4	966.5	968.7	966.5	954.7	939.2	928.9	928.1
42.5°	928.9	930.3	942.9	960.6	971.0	974.6	971.0	959.1	942.2	929.6	928.9
45°	923.7	924.4	939.2	957.7	970.2	974.6	970.2	956.2	938.5	924.4	923.7
47.5°	917.1	918.5	934.8	954.0	969.5	972.4	968.7	953.2	933.3	919.3	917.1
50°	911.9	916.3	931.1	952.5	971.0	979.8	971.0	950.3	930.3	914.8	911.9
52.5°	914.8	916.3	935.5	965.8	990.9	994.6	990.2	965.8	934.0	916.3	914.1
55°	923.7	930.3	951.0	994.6	1017.5	1024.1	1014.5	993.1	951.8	930.3	923.7
57.5°	935.5	937.7	967.3	1005.7	1039.6	1059.6	1040.4	1004.9	969.5	936.3	934.8
60°	925.9	919.3	956.2	1001.2	1047.0	1055.1	1044.1	1002.0	954.7	918.5	925.2
62.5°	900.1	904.5	934.8	996.8	1028.5	1037.4	1025.6	996.8	933.3	908.2	897.9
65°	879.4	906.0	939.2	983.5	1034.5	1059.6	1035.2	982.0	940.7	901.5	877.2
67.5°	850.6	855.8	905.2	959.9	1005.7	1018.2	1004.9	960.6	900.8	852.1	855.8
70°	801.9	794.5	844.7	908.2	951.8	971.7	953.2	905.2	842.5	793.0	799.7
72.5°	721.4	725.8	772.3	839.5	884.6	903.8	885.3	834.4	770.9	730.2	725.8
75°	637.2	642.4	687.4	748.7	794.5	802.6	797.4	745.0	688.9	641.6	637.2
77.5°	541.2	546.4	583.3	650.5	677.8	690.4	679.3	654.2	581.8	545.7	539.7
80°	434.9	433.4	465.9	523.5	557.5	571.5	557.5	525.0	464.4	436.4	426.8
82.5°	310.9	312.3	342.6	382.5	415.0	419.4	412.7	386.2	339.6	316.0	302.7
85°	172.8	179.4	201.6	231.1	252.5	259.9	248.8	223.7	200.8	182.4	176.5
87.5°	41.3	45.0	52.4	66.5	74.6	82.0	74.6	69.4	49.5	45.0	41.3
90°	30.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
92.5°	34.8	34.2	34.2	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8
95°	39.4	39.4	39.4	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5
97.5°	44.6	44.6	44.6	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2
100°	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8
102.5°	55.9	55.9	55.9	55.9	55.9	55.9	55.9	56.4	55.9	55.9	55.9
105°	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.9	62.0	62.0	62.0
107.5°	68.6	68.6	69.0	69.0	69.0	69.0	69.0	69.5	69.0	69.0	69.0
110°	75.1	75.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	83.1	83.1	84.0	84.0	84.0	84.0	84.6	84.6	84.0	84.0	84.0
115°	91.1	91.1	92.0	92.0	92.0	92.0	93.0	93.0	92.0	92.0	92.0
117.5°	100.5	100.5	101.0	101.4	101.4	101.4	102.4	102.4	101.4	101.4	101.4
120°	109.9	109.9	109.9	110.8	110.8	110.8	111.8	111.8	110.8	110.8	110.8
122.5°	120.7	120.7	121.2	121.6	121.6	121.6	122.6	122.6	122.1	122.1	121.6
125°	131.5	131.5	132.4	132.4	132.4	132.4	133.4	133.4	133.4	133.4	132.4
127.5°	143.2	143.2	144.2	144.2	144.2	144.2	145.1	145.1	145.1	145.1	144.2
130°	155.0	155.0	155.9	155.9	155.9	155.9	156.8	156.8	156.8	156.8	155.9
132.5°	167.2	167.2	167.6	167.6	167.6	167.6	168.6	168.6	168.6	168.6	168.1
135°	179.4	179.4	179.4	179.4	179.4	179.4	180.3	180.3	180.3	180.3	180.3
137.5°	191.2	190.6	191.2	190.6	191.2	191.6	191.6	191.6	191.6	191.6	191.6
140°	202.9	201.9	202.9	201.9	202.9	202.9	202.9	202.9	202.9	202.9	202.9
142.5°	213.7	213.2	213.7	212.7	213.7	213.7	213.7	213.7	213.7	213.7	213.7
145°	224.5	224.5	224.5	223.5	224.5	224.5	224.5	224.5	224.5	224.5	224.5
147.5°	235.8	235.3	235.8	234.8	235.8	235.8	235.8	235.8	235.8	235.8	235.8
150°	247.0	246.1	247.0	246.1	247.0	247.0	247.0	247.0	247.0	247.0	247.0
152.5°	256.0	255.5	256.4	255.5	256.0	256.0	256.4	256.0	256.0	256.0	256.0
155°	264.9	264.9	265.8	264.9	264.9	264.9	265.8	264.9	264.9	264.9	264.9
157.5°	272.4	272.4	273.3	272.4	272.4	272.4	273.3	272.4	272.4	272.4	272.4
160°	279.9	279.9	280.8	279.9	279.9	279.9	280.8	279.9	279.9	279.9	279.9
162.5°	286.0	286.0	286.9	286.0	286.0	286.0	286.9	286.0	286.0	286.0	286.0
165°	292.1	292.1	293.0	292.1	292.1	292.1	293.0	292.1	292.1	292.1	292.1
167.5°	295.8	295.8	296.8	295.8	295.8	295.8	296.8	295.8	295.8	295.8	295.8
170°	299.6	299.6	300.5	299.6	299.6	299.6	300.5	299.6	299.6	299.6	299.6
172.5°	302.0	302.0	302.8	302.0	302.4	302.0	302.8	302.0	302.0	302.0	302.0
175°	304.3	304.3	305.2	304.3	305.2	304.3	305.2	304.3	304.3	304.3	304.3
177.5°	305.2	305.2	305.7	305.2	305.7	305.2	305.7	305.2	305.2	305.2	305.2
180°	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2

(END OF REPORT)