

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: P821201

Luminaire Tested: **TT-D1-735-24VDC-WQ-UPL**

Issue Date: 7/23/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P821201  
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-D1-735-24VDC-WQ-UPL  
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT  
3500K, 70 CRI LEDS AND WIDE DISTRIBUTION  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

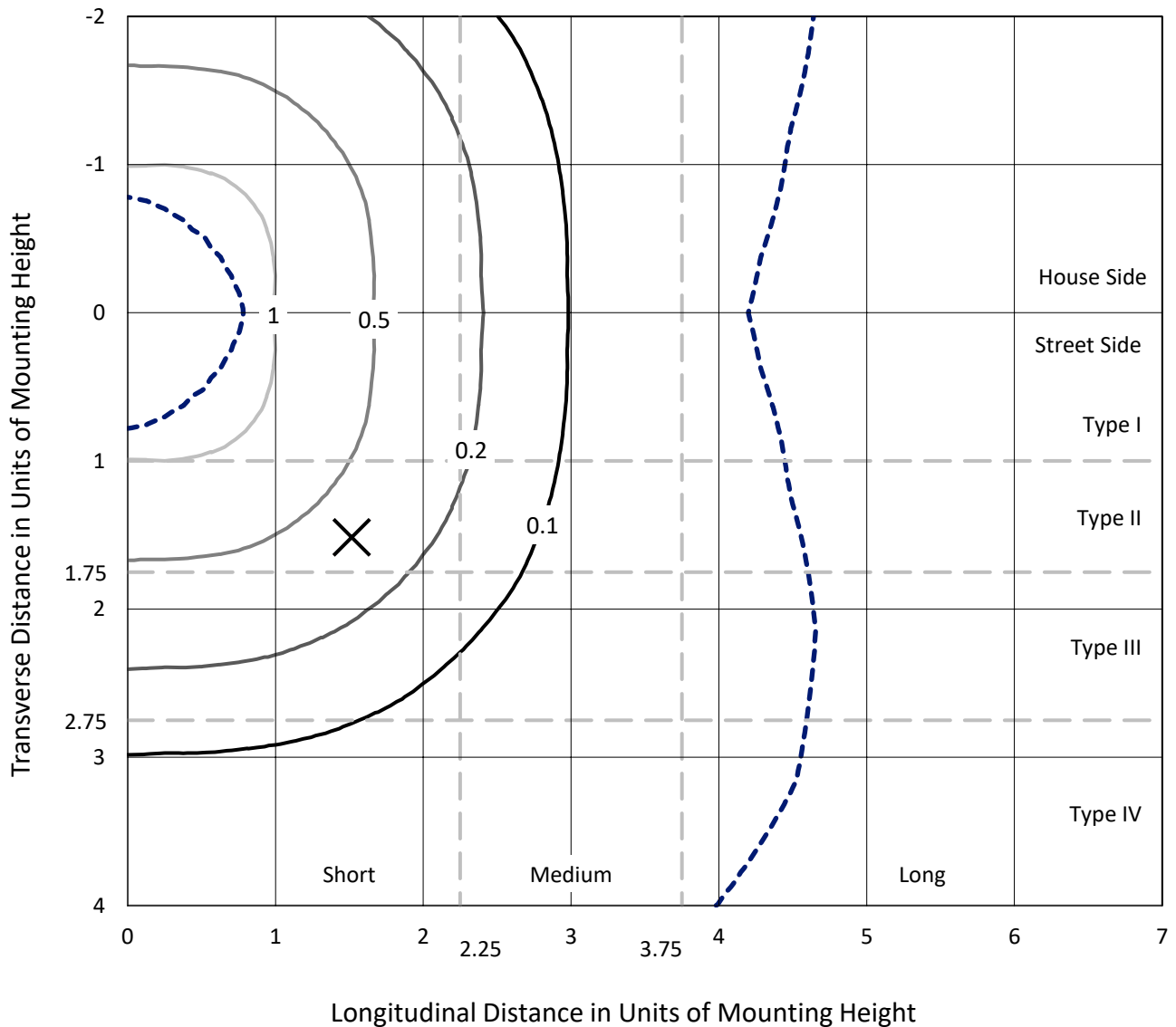
Lumens per Lamp: N/A  
Luminaire Lumens: 4497.7 lumens  
Efficiency: N/A  
Efficacy: 160.6 lumens/watt  
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')  
IES Classification: Type V - Short  
BUG Rating: B2 - U4 - G1

Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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

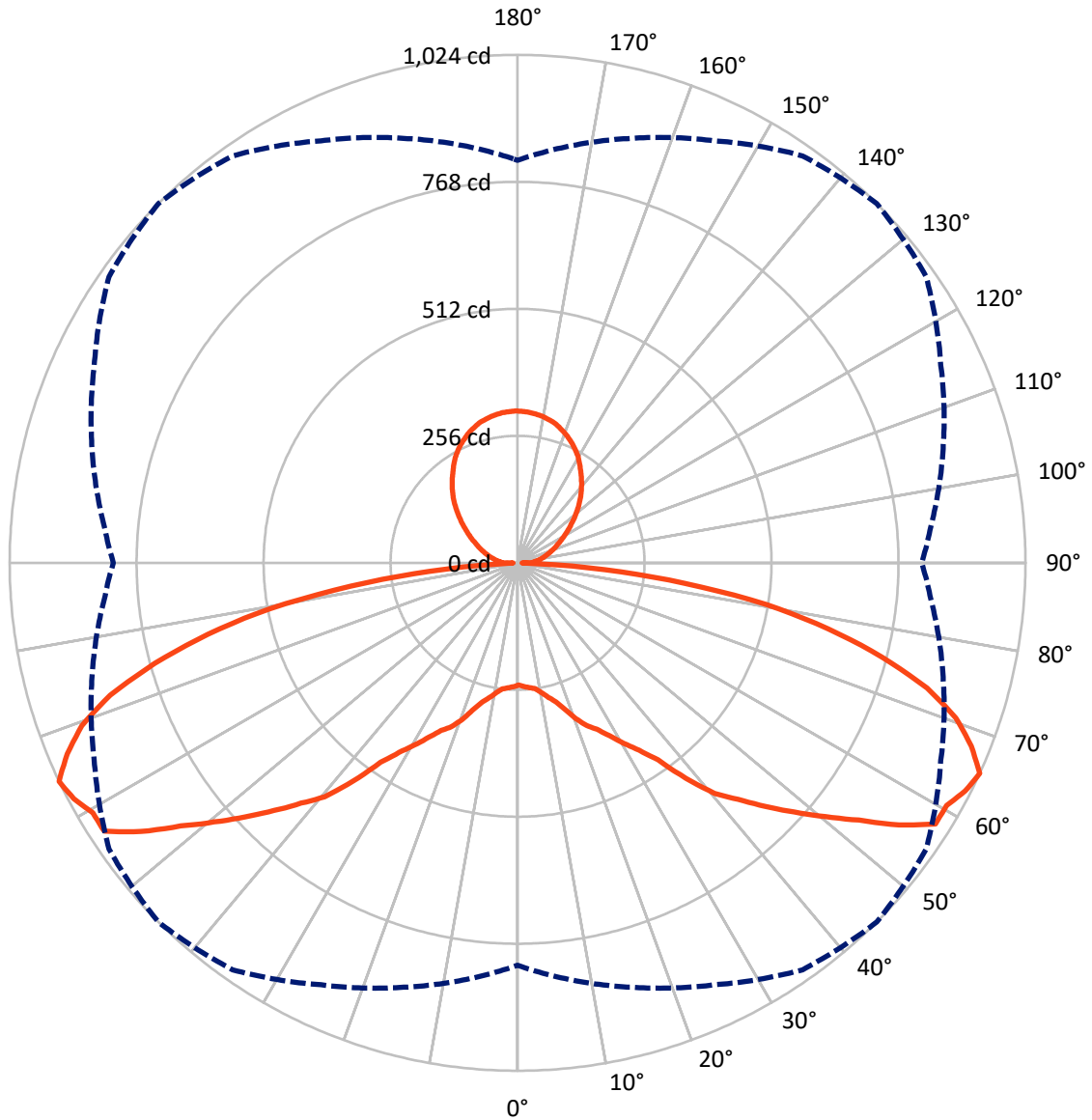
✕ Max cd  
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 1.2 fc  
 Type V - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral      - - - Horizontal Cone Through 65-Deg Vertical

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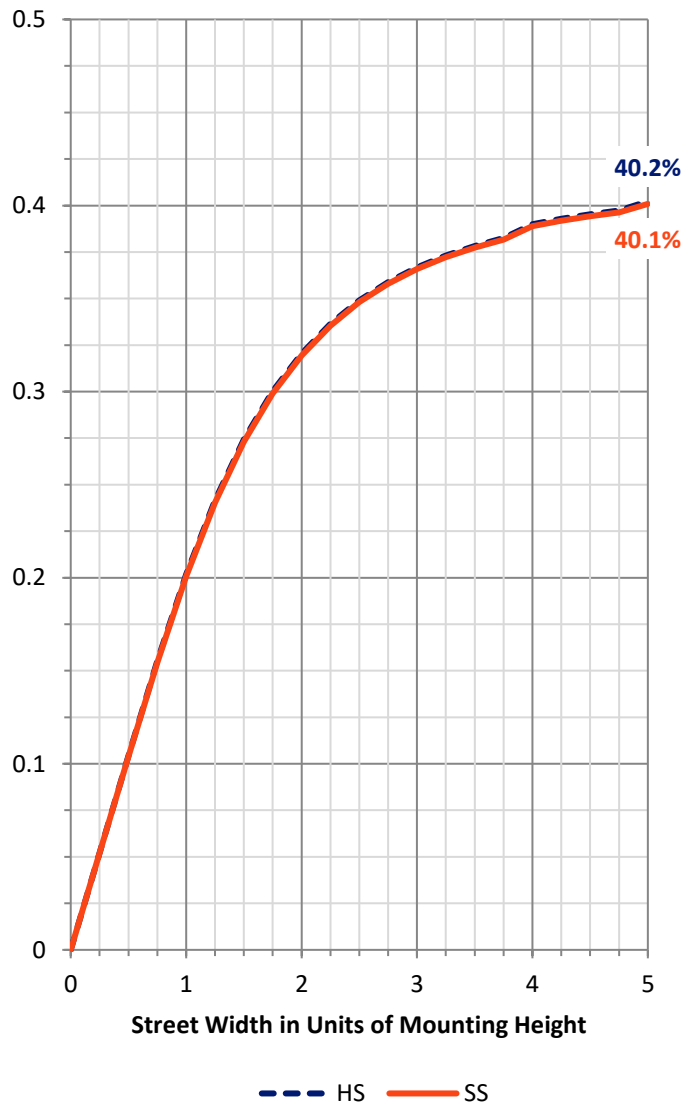
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1833.0	415.9	2248.9
	% Fixture	40.8	9.2	50.0
<b>Street Side</b>	Lumens	1833.0	415.9	2248.9
	% Fixture	40.8	9.2	50.0
<b>Total</b>	Lumens	3666.0	831.7	4497.7
	% Fixture	81.5	18.5	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	24.6	0.5
10°-20°	84.5	1.9
20°-30°	173.6	3.9
30°-40°	308.4	6.9
40°-50°	519.8	11.6
50°-60°	766.8	17.0
60°-70°	899.9	20.0
70°-80°	701.1	15.6
80°-90°	187.3	4.2
90°-100°	42.6	0.9
100°-110°	66.0	1.5
110°-120°	91.9	2.0
120°-130°	119.0	2.6
130°-140°	138.7	3.1
140°-150°	140.5	3.1
150°-160°	121.9	2.7
160°-170°	82.2	1.8
170°-180°	28.9	0.6
0°-90°	3666.0	81.5
0°-180°	4497.7	100.0

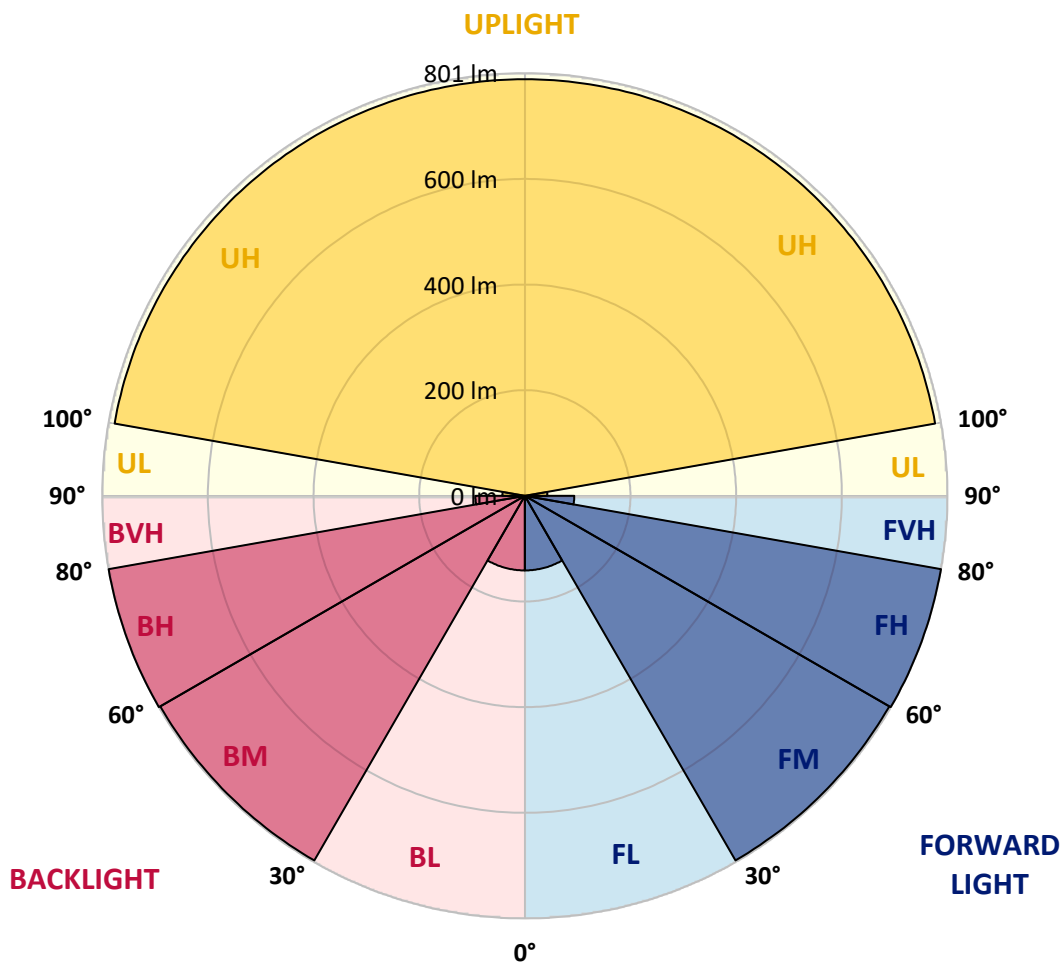


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	141.3	3.1			
FM (30°-60°)	797.5	17.7			
FH (60°-80°)	800.5	17.8			G1/1800
FVH (80°-90°)	93.6	2.1			G1/100
BL (0°-30°)	141.3	3.1	B1/500		
BM (30°-60°)	797.5	17.7	B1/1000		
BH (60°-80°)	800.5	17.8	B2/1000		G1/1800
BVH (80°-90°)	93.6	2.1			G1/100
UL (90°-100°)	42.6	0.9		U2/50	
UH (100°-180°)	789.1	17.5		U4/1000	

**BUG Rating: B2-U4-G1**  
 Type V Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	246.5	246.5	246.5	246.5	246.5	246.5	246.5	246.5	246.5	246.5	246.5
2.5°	250.5	250.5	250.5	249.9	249.9	249.9	249.9	250.5	250.5	250.5	250.5
5°	256.3	256.3	255.1	254.0	252.8	252.8	253.4	254.0	254.5	255.7	255.7
7.5°	259.7	259.7	259.1	258.0	256.3	256.3	256.8	258.0	258.6	258.6	258.0
10°	264.3	264.9	266.6	267.2	266.0	266.0	266.6	267.2	266.0	264.3	264.3
12.5°	275.3	275.8	278.1	279.9	279.9	278.7	279.3	280.4	277.6	274.7	275.3
15°	290.8	290.8	291.4	293.1	292.0	290.8	292.0	292.5	290.8	290.2	291.4
17.5°	311.5	311.5	308.1	311.0	311.5	311.0	312.1	309.2	307.5	309.8	311.0
20°	334.0	331.7	330.0	332.3	336.9	335.1	337.4	331.1	329.4	330.5	331.1
22.5°	348.4	350.1	351.3	352.4	358.8	356.5	358.8	351.8	350.7	348.4	346.7
25°	365.7	367.4	374.3	370.8	374.9	371.4	374.3	370.3	372.6	365.7	365.7
27.5°	385.2	388.7	392.7	391.0	396.2	394.5	396.2	390.4	391.0	388.1	387.0
30°	411.7	411.7	410.6	414.0	423.3	422.1	422.7	415.2	410.0	410.6	412.9
32.5°	438.2	434.8	436.5	446.9	452.6	450.3	451.5	448.0	436.5	434.2	435.9
35°	463.0	468.2	472.2	480.8	488.9	487.7	487.2	481.4	473.9	464.7	461.8
37.5°	501.6	507.3	518.3	533.8	548.2	551.1	543.6	536.1	518.8	505.6	498.7
40°	552.2	552.8	565.5	595.4	608.7	611.0	606.9	594.3	567.8	552.8	552.2
42.5°	596.6	592.6	613.3	638.6	650.7	651.9	649.0	638.6	613.3	592.0	596.0
45°	631.1	631.1	655.9	676.0	695.6	700.2	695.1	673.2	656.5	631.7	630.0
47.5°	662.8	671.4	692.2	716.9	744.6	750.9	744.6	718.7	690.4	672.0	662.2
50°	700.8	711.2	726.1	764.7	795.8	804.5	795.2	767.0	726.1	710.6	704.8
52.5°	745.2	753.8	777.4	825.8	848.8	861.5	854.0	826.9	778.5	754.9	750.3
55°	798.1	790.1	826.9	873.6	916.2	932.9	917.9	874.7	832.7	790.1	798.1
57.5°	825.2	816.0	867.8	912.1	971.5	993.3	974.9	915.6	867.8	818.9	824.6
60°	827.5	831.5	870.7	943.2	984.1	993.3	987.6	948.4	872.4	835.0	824.0
62.5°	820.6	845.3	878.7	953.6	990.5	1012.9	993.3	954.8	882.2	849.4	821.2
65°	811.4	836.1	885.7	938.6	1001.4	1023.9	1005.4	941.5	888.0	836.1	814.8
67.5°	795.2	786.6	847.7	918.5	973.2	986.4	974.9	919.6	847.1	785.5	797.0
70°	744.0	736.5	788.9	866.7	919.1	937.5	923.7	867.8	790.1	738.2	745.2
72.5°	668.0	670.3	721.0	795.2	851.7	863.2	855.7	794.7	723.8	673.2	664.0
75°	579.3	585.1	633.4	700.8	752.1	759.0	751.5	703.7	632.9	588.5	576.4
77.5°	476.2	484.9	524.0	591.4	625.4	640.9	628.8	593.1	526.9	487.2	475.1
80°	369.1	372.0	399.6	453.8	498.7	509.1	497.5	455.5	403.1	373.2	364.5
82.5°	241.9	246.5	271.2	312.7	342.1	339.2	342.1	309.2	274.1	245.3	230.9
85°	107.7	116.9	133.6	153.2	172.2	177.4	172.2	155.5	133.6	114.6	112.3
87.5°	7.5	8.6	10.4	10.9	12.1	9.2	9.2	9.2	8.1	9.2	7.5
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)