

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: INVUE

Report Number: P401043

Luminaire Tested: **ENT-SA1A-830-U-SLR-HSS**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401043
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-10)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1A-830-U-SLR-HSS
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K, 350mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1633 lumens
Efficiency: N/A
Efficacy: 81.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B0 - U0 - G1

Input Watts (W): 20.1
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

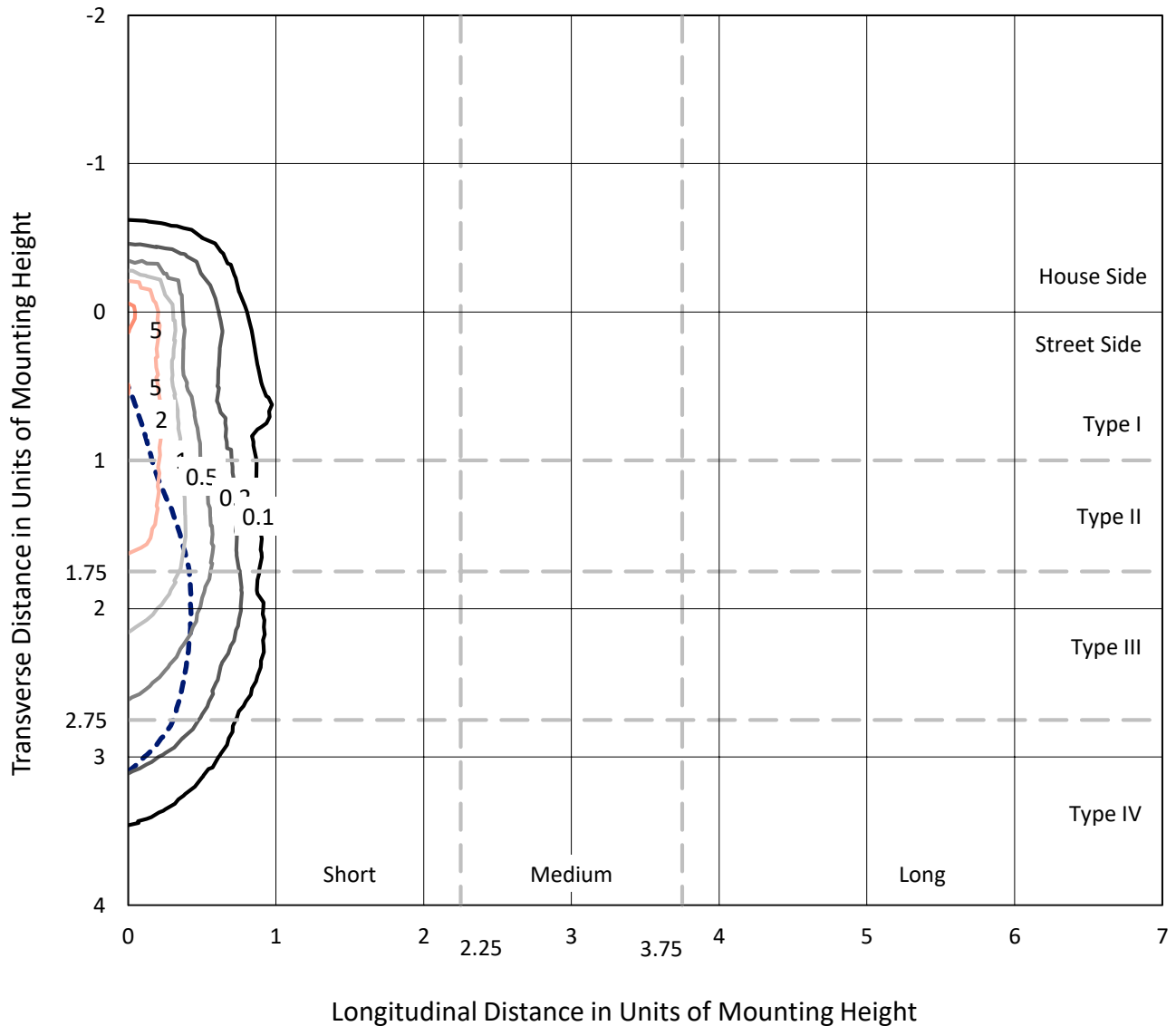


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Iso-Footcandle Lines of Horizontal Illumination

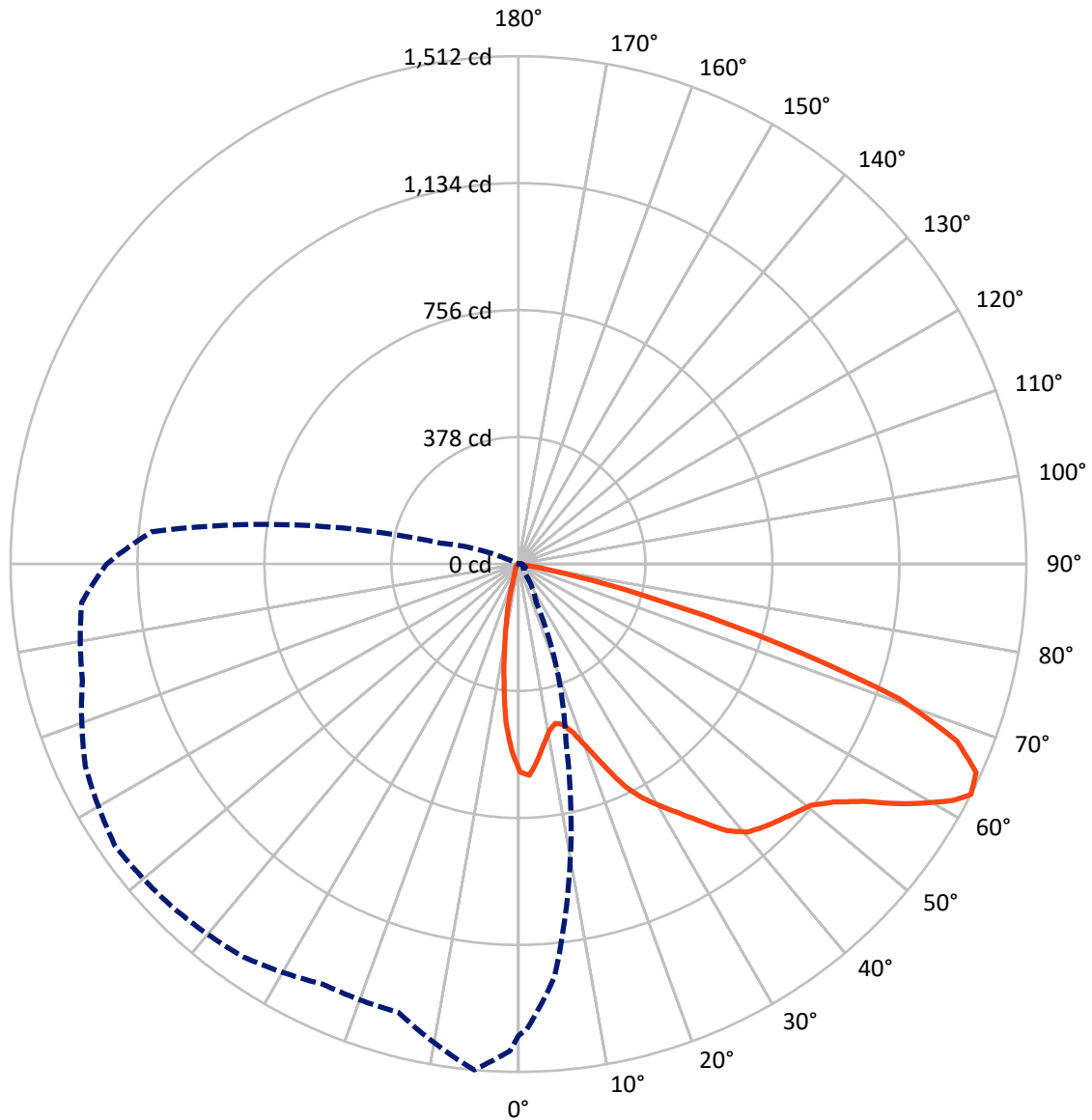
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.2 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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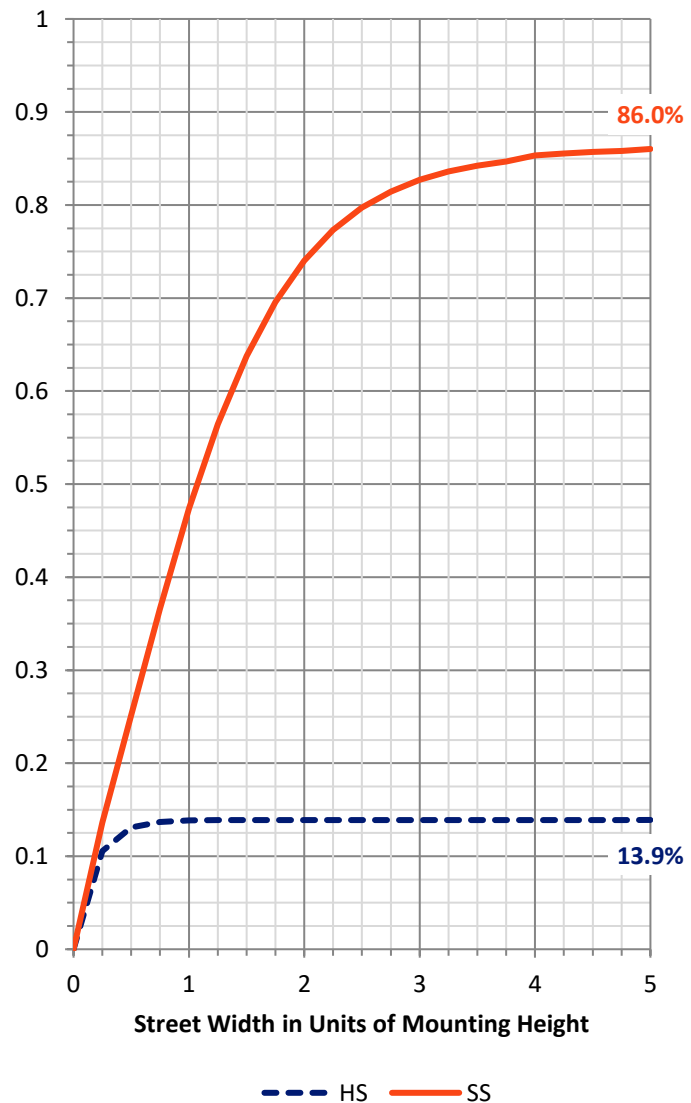
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	229.7	0.0	229.7
	% Fixture	14.1	0.0	14.1
Street Side	Lumens	1403.3	0.0	1403.3
	% Fixture	85.9	0.0	85.9
Total	Lumens	1633.0	0.0	1633.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.5	2.8
10°-20°	88.3	5.4
20°-30°	122.9	7.5
30°-40°	177.7	10.9
40°-50°	254.8	15.6
50°-60°	369.6	22.6
60°-70°	399.9	24.5
70°-80°	161.5	9.9
80°-90°	12.0	0.7
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°	1633.0	100.0
0°-180°	1633.0	100.0



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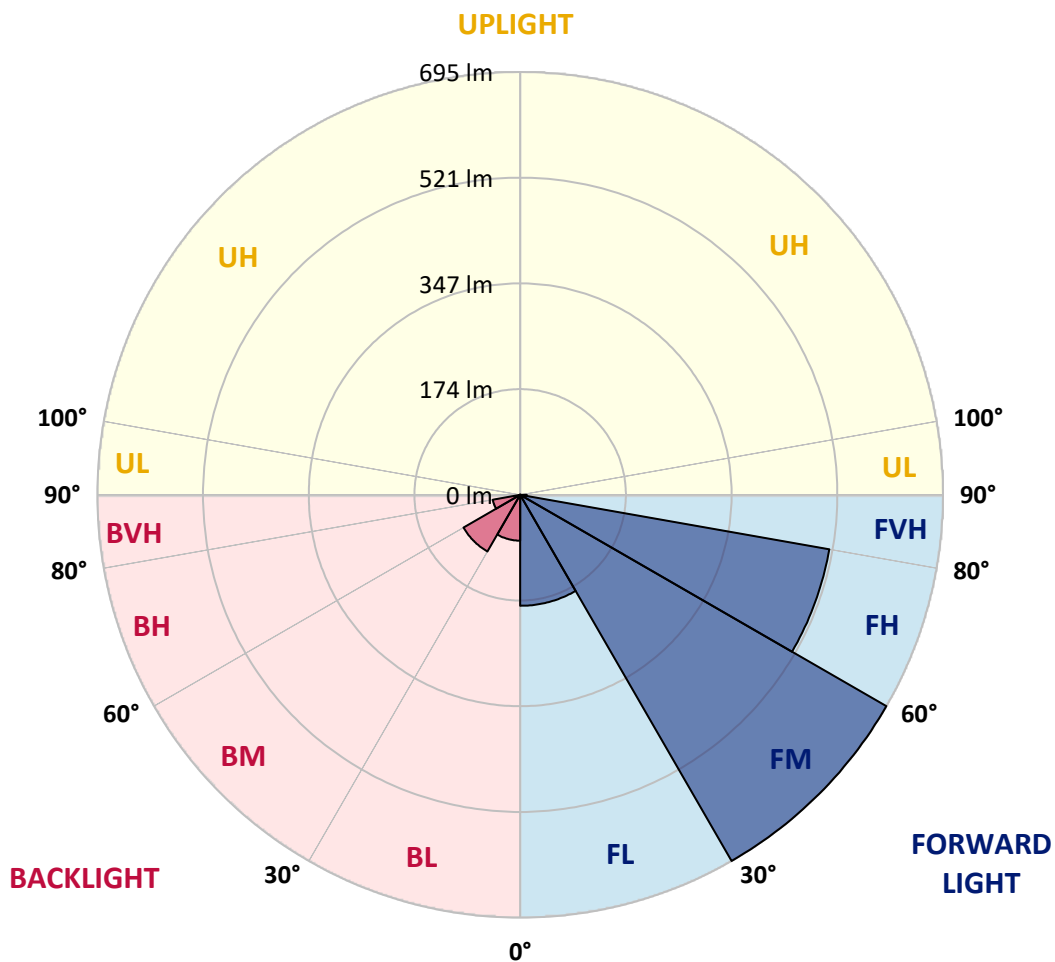
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	182.3	11.2			
FM	(30°-60°)	694.6	42.5			
FH	(60°-80°)	515.7	31.6			G0/660
FVH	(80°-90°)	10.7	0.7			G1/100
BL	(0°-30°)	75.3	4.6	B0/110		
BM	(30°-60°)	107.5	6.6	B0/220		
BH	(60°-80°)	45.7	2.8	B0/110		G0/110
BVH	(80°-90°)	1.2	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B0-U0-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4
2.5°	622.0	619.4	613.6	601.0	582.9	571.3	563.9	554.2	544.1	540.9	534.4
5°	567.7	563.5	555.5	523.8	495.4	466.9	446.6	427.2	420.7	407.8	415.5
7.5°	515.4	513.4	494.7	453.7	408.4	371.9	348.7	320.2	311.8	298.6	287.9
10°	474.3	472.7	450.1	396.5	347.7	317.3	298.9	280.5	262.1	243.3	228.4
12.5°	453.7	450.1	423.9	366.1	320.9	295.7	276.3	251.7	232.0	206.8	188.7
15°	456.9	453.7	423.6	361.3	307.9	273.0	244.3	215.2	187.4	162.5	144.8
17.5°	482.7	481.5	444.9	365.5	292.4	246.2	207.8	168.7	135.7	108.9	93.7
20°	533.2	529.3	476.3	374.5	276.3	215.2	162.5	114.4	86.9	68.5	62.0
22.5°	595.5	586.8	525.7	387.8	260.8	181.9	117.6	76.9	62.0	54.9	50.4
25°	668.9	669.2	587.1	405.5	245.3	150.9	82.4	61.1	52.3	47.2	43.3
27.5°	728.3	723.8	642.4	423.3	228.4	123.8	69.1	53.3	45.9	40.4	38.1
30°	772.3	765.5	678.9	435.6	206.8	104.7	62.0	50.7	43.3	37.2	34.3
32.5°	817.5	809.1	711.8	442.4	193.9	95.6	54.9	44.3	38.8	36.2	32.3
35°	870.5	863.1	748.4	441.7	187.1	90.5	49.8	40.1	33.0	28.8	26.2
37.5°	929.6	914.4	786.2	438.8	182.2	87.9	45.2	37.2	30.7	26.2	22.9
40°	980.4	965.2	821.1	434.9	179.0	85.3	42.7	35.2	29.1	24.2	21.0
42.5°	1020.1	1005.6	853.7	430.1	177.4	79.8	43.9	33.9	27.8	22.9	19.4
45°	1054.4	1039.5	892.5	429.4	176.7	75.9	43.3	33.6	27.1	21.3	18.1
47.5°	1094.1	1086.3	943.5	440.1	174.2	73.0	39.7	36.2	26.8	20.7	17.1
50°	1152.9	1146.1	1010.4	471.8	170.3	70.1	36.2	39.7	26.8	20.0	16.2
52.5°	1235.3	1227.6	1115.8	513.1	166.7	66.9	32.6	38.5	27.1	19.1	15.5
55°	1320.6	1319.3	1215.3	557.1	163.5	59.8	28.8	34.6	26.5	17.8	14.5
57.5°	1387.5	1386.5	1289.9	586.8	157.4	48.1	26.2	28.8	24.6	16.2	13.2
60°	1415.0	1406.9	1298.0	586.8	143.1	39.7	23.9	22.6	24.9	14.5	11.6
61°	1415.0	1404.6	1283.5	578.1	136.0	37.8	22.6	21.0	25.5	13.9	11.0
62.5°	1404.0	1386.9	1233.7	546.7	124.7	37.8	20.7	18.7	23.3	13.2	10.0
65°	1355.2	1327.1	1117.0	475.3	113.1	38.8	17.8	15.8	16.8	11.3	8.7
67.5°	1234.7	1203.0	965.8	376.1	103.7	41.0	14.9	13.9	12.9	10.0	7.8
70°	1017.2	990.4	788.1	281.8	96.3	41.7	12.9	11.6	11.0	8.7	6.8
72.5°	650.1	605.9	492.1	191.0	77.2	36.2	10.7	11.0	10.0	7.1	5.5
75°	314.1	326.4	286.3	96.3	52.0	23.6	8.4	9.0	8.1	6.5	4.8
77.5°	140.6	138.0	136.7	24.6	13.2	8.1	5.2	6.1	6.5	5.8	4.2
80°	14.5	19.7	11.6	7.4	4.8	3.6	2.9	3.2	3.9	4.2	2.3
82.5°	0.6	0.3	0.3	1.0	1.0	0.6	0.0	0.0	0.6	0.6	0.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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°	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4
2.5°	528.6	537.4	533.5	532.5	537.7	535.1	542.9	543.2	549.0	556.7	561.6
5°	415.5	408.8	422.3	431.4	442.7	439.1	452.7	451.1	458.5	470.8	465.9
7.5°	288.6	289.5	296.6	304.7	335.1	341.2	345.7	349.3	349.0	351.9	357.1
10°	220.7	215.2	210.4	221.7	233.6	246.9	248.8	253.7	240.4	245.9	248.5
12.5°	180.6	174.2	163.5	157.7	160.6	168.3	171.6	174.5	166.7	167.1	172.9
15°	137.0	128.3	124.1	116.3	113.4	112.8	114.4	110.2	109.2	105.7	107.9
17.5°	89.2	86.6	84.3	82.7	80.5	79.8	74.0	64.0	58.2	56.9	56.9
20°	59.5	57.5	57.5	60.7	59.8	57.2	49.4	41.0	36.8	35.5	36.2
22.5°	48.8	47.5	45.6	45.6	46.9	44.9	37.8	31.7	28.8	28.8	28.8
25°	42.3	41.7	39.7	37.8	38.5	36.8	30.7	26.8	24.9	24.6	24.9
27.5°	37.2	36.8	34.6	32.6	32.6	31.3	26.5	22.9	21.6	21.0	21.3
30°	33.6	33.0	30.4	28.8	28.4	27.1	22.6	20.0	18.7	18.4	18.4
32.5°	31.0	29.7	27.5	25.9	24.9	22.9	19.7	17.1	15.8	15.5	15.5
35°	24.9	24.9	23.9	22.9	21.6	18.7	16.5	14.2	12.9	12.6	12.6
37.5°	21.6	20.4	18.7	19.1	18.4	15.8	13.6	11.3	10.3	10.0	10.0
40°	19.7	18.1	15.8	14.9	15.2	13.9	11.3	8.7	7.4	7.8	7.4
42.5°	17.8	16.5	13.9	11.6	11.3	11.6	8.7	6.1	5.2	5.2	5.2
45°	16.5	15.2	12.3	9.7	8.1	9.0	6.8	4.2	3.2	3.2	3.2
47.5°	15.5	14.2	11.0	8.1	5.8	6.1	4.8	2.6	1.9	1.3	1.6
50°	14.9	13.2	10.0	6.5	4.2	3.6	3.2	1.3	0.3	0.3	0.0
52.5°	13.9	12.6	9.0	5.5	3.2	2.3	1.6	0.3	0.0	0.0	0.0
55°	13.2	11.6	8.1	4.8	2.6	1.3	0.3	0.0	0.0	0.0	0.0
57.5°	12.0	10.7	7.1	3.9	1.9	0.6	0.0	0.0	0.0	0.0	0.0
60°	10.7	9.7	6.1	2.9	1.3	0.0	0.0	0.0	0.0	0.0	0.0
61°	10.0	9.0	5.8	2.6	1.0	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	9.4	8.4	5.2	1.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0
65°	8.1	7.1	4.5	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	7.1	6.5	3.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	6.1	5.5	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	5.2	4.8	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	4.5	3.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	3.6	3.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	1.9	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4
2.5°	566.1	577.4	588.1	601.7	609.1	629.4	644.0	656.3	666.0	667.9	675.7
5°	478.9	494.7	505.0	533.5	549.3	583.2	609.4	640.4	668.2	683.4	697.3
7.5°	360.6	368.4	386.1	414.6	452.1	481.5	525.7	564.8	614.9	642.4	668.2
10°	254.6	261.7	287.9	317.6	351.9	401.3	455.0	506.3	557.1	592.3	622.7
12.5°	179.0	202.3	228.1	265.9	299.5	335.7	392.9	453.0	516.4	550.0	582.9
15°	117.6	138.3	174.2	221.7	263.7	298.9	352.2	422.6	503.1	540.6	571.9
17.5°	58.2	73.3	105.0	156.1	212.0	267.5	331.8	417.2	520.2	562.6	592.0
20°	36.5	41.0	52.7	88.2	152.5	234.6	316.7	428.1	566.8	613.6	632.7
22.5°	29.4	30.7	35.2	46.9	93.1	193.9	303.4	443.0	617.8	675.0	694.7
25°	25.2	26.2	28.8	34.6	54.0	145.4	287.3	469.2	677.3	746.4	751.3
27.5°	21.6	22.6	24.9	29.4	38.5	97.9	264.0	499.9	748.4	809.1	805.9
30°	18.4	19.7	22.0	25.2	30.4	66.2	220.7	530.9	800.7	849.5	844.3
32.5°	15.8	16.8	18.7	21.6	25.2	45.6	165.8	551.3	844.3	887.6	876.3
35°	12.9	13.9	15.5	18.1	20.4	32.3	125.4	551.9	889.2	934.8	906.4
37.5°	10.3	11.0	12.6	14.9	16.8	25.2	92.1	541.2	944.8	996.2	940.6
40°	7.8	8.7	10.3	12.3	14.2	21.3	68.8	515.4	999.1	1057.6	982.0
42.5°	5.2	6.5	8.1	10.0	13.6	17.1	48.5	472.4	1043.0	1112.2	1022.4
45°	3.2	4.2	6.1	8.4	13.9	13.6	32.3	421.0	1074.4	1153.9	1049.8
47.5°	1.6	2.6	4.5	8.1	12.3	10.0	20.0	371.9	1102.8	1178.1	1062.4
50°	0.3	1.0	3.2	10.0	10.3	7.4	13.2	341.2	1117.7	1172.0	1061.1
52.5°	0.0	0.0	2.3	9.7	7.4	5.8	10.3	336.7	1141.0	1180.1	1083.4
55°	0.0	0.0	1.0	4.2	4.2	4.8	9.0	330.6	1182.3	1228.2	1150.6
57.5°	0.0	0.0	0.0	1.9	2.6	3.9	8.4	314.4	1225.9	1279.3	1232.4
60°	0.0	0.0	0.0	1.0	1.6	3.2	7.4	277.6	1185.9	1279.6	1300.3
61°	0.0	0.0	0.0	1.0	1.3	2.9	6.8	264.6	1150.0	1258.9	1308.7
62.5°	0.0	0.0	0.0	0.3	1.0	2.3	5.8	239.1	1096.4	1225.6	1304.8
65°	0.0	0.0	0.0	0.0	0.3	1.3	4.5	193.2	1006.9	1141.9	1260.2
67.5°	0.0	0.0	0.0	0.0	0.0	0.3	2.9	136.0	878.3	1047.2	1164.9
70°	0.0	0.0	0.0	0.0	0.0	0.0	1.3	78.8	707.6	886.7	997.8
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.6	35.9	459.2	684.7	787.1
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.2	282.7	494.7	588.1
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8	191.6	329.3	395.8
80°	0.0	0.6	0.3	0.0	0.0	0.0	0.0	2.6	117.9	205.5	223.3
82.5°	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	61.1	145.1	148.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.5	30.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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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CATALOG NUMBER: ENT-SA1A-830-U-SLR-HSS

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4
2.5°	682.8	684.7	686.0	683.7	669.8	662.1	646.6	629.4	623.6	622.0
5°	722.5	733.5	731.6	716.7	692.5	662.7	625.9	587.8	573.2	567.7
7.5°	714.8	743.5	749.0	733.5	692.5	640.4	587.1	541.9	520.9	515.4
10°	675.3	711.5	729.0	724.1	685.7	625.6	560.0	504.4	481.5	474.3
12.5°	637.2	672.1	683.1	687.0	666.0	613.9	546.4	486.6	462.7	453.7
15°	611.7	633.3	632.7	639.8	638.2	609.4	555.1	495.7	468.9	456.9
17.5°	603.3	596.8	588.4	594.2	605.5	610.7	583.6	528.0	496.6	482.7
20°	608.4	576.8	558.4	558.0	581.9	621.4	625.2	581.3	551.9	533.2
22.5°	634.9	566.8	538.3	539.0	568.4	637.2	673.4	651.1	618.8	595.5
25°	674.0	568.7	530.6	534.4	567.1	651.1	725.4	730.6	689.2	668.9
27.5°	713.8	585.5	530.9	535.1	572.6	658.5	755.1	789.1	753.5	728.3
30°	741.6	606.2	536.7	541.2	581.3	664.3	766.5	837.2	800.4	772.3
32.5°	767.7	627.5	546.1	550.6	598.8	676.3	787.8	885.7	845.3	817.5
35°	793.3	648.5	563.5	571.6	626.9	698.0	809.4	942.6	909.0	870.5
37.5°	815.2	671.8	593.6	610.7	665.0	731.2	838.8	1007.2	972.6	929.6
40°	833.7	699.2	655.6	674.7	723.2	766.5	871.5	1049.5	1026.6	980.4
42.5°	848.5	747.7	744.5	771.3	805.2	806.8	880.8	1069.9	1061.1	1020.1
45°	873.4	834.6	861.1	905.1	902.8	855.3	878.3	1088.6	1089.3	1054.4
47.5°	914.1	943.5	1020.1	1049.8	1034.6	921.6	880.8	1107.0	1121.6	1094.1
50°	972.3	1067.0	1167.1	1206.5	1162.3	988.1	903.8	1129.0	1172.9	1152.9
52.5°	1022.0	1160.3	1302.8	1338.1	1277.6	1059.2	957.4	1176.5	1241.8	1235.3
55°	1093.1	1240.8	1399.5	1426.6	1378.1	1139.7	1029.5	1246.3	1317.4	1320.6
57.5°	1165.8	1313.5	1462.5	1489.9	1453.1	1239.8	1131.9	1346.5	1388.5	1387.5
60°	1246.6	1381.4	1490.9	1506.1	1485.1	1340.0	1242.1	1438.2	1437.3	1415.0
61°	1292.8	1403.0	1489.0	1493.5	1473.1	1369.4	1299.0	1473.5	1444.4	1415.0
62.5°	1343.9	1422.7	1465.0	1449.9	1427.9	1379.7	1381.4	1511.9	1449.2	1404.0
65°	1395.6	1373.3	1354.9	1282.2	1261.5	1284.7	1450.8	1497.4	1419.8	1355.2
67.5°	1307.0	1176.8	1137.1	1064.1	982.3	1077.3	1384.9	1408.5	1320.6	1234.7
70°	1068.3	864.7	817.5	814.9	756.1	860.5	1221.4	1204.3	1096.0	1017.2
72.5°	837.2	590.0	525.7	540.6	529.0	641.4	999.1	808.1	702.8	650.1
75°	656.3	419.4	361.9	359.3	346.7	436.9	731.6	425.9	351.6	314.1
77.5°	433.0	302.1	301.2	278.2	268.5	236.9	328.3	170.6	139.3	140.6
80°	249.5	185.2	217.1	172.2	172.5	138.9	132.8	24.9	20.0	14.5
82.5°	143.1	88.9	67.2	26.5	55.6	55.6	10.7	0.3	0.3	0.6
85°	13.9	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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