

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: P188099

Luminaire Tested: **QDCAST1B (SINGLE PANEL 0°TILT)**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188099
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P22242)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: QDCAST1B (SINGLE PANEL 0°TILT)
Description: LUMARK QUADCAST PARKING GARAGE/CANOPY FIXTURE W/4 ROTATING OPTICAL LIGHT PANELS
Light Source: (4) 4000K SMT LED OPTICAL PANELS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1295.2 lumens
Efficiency: N/A
Efficacy: 112.6 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1.23' x L: 1.23' x H: 0.08')
IES Classification: Type II - Short - Cutoff
BUG Rating: B1 - U2 - G1

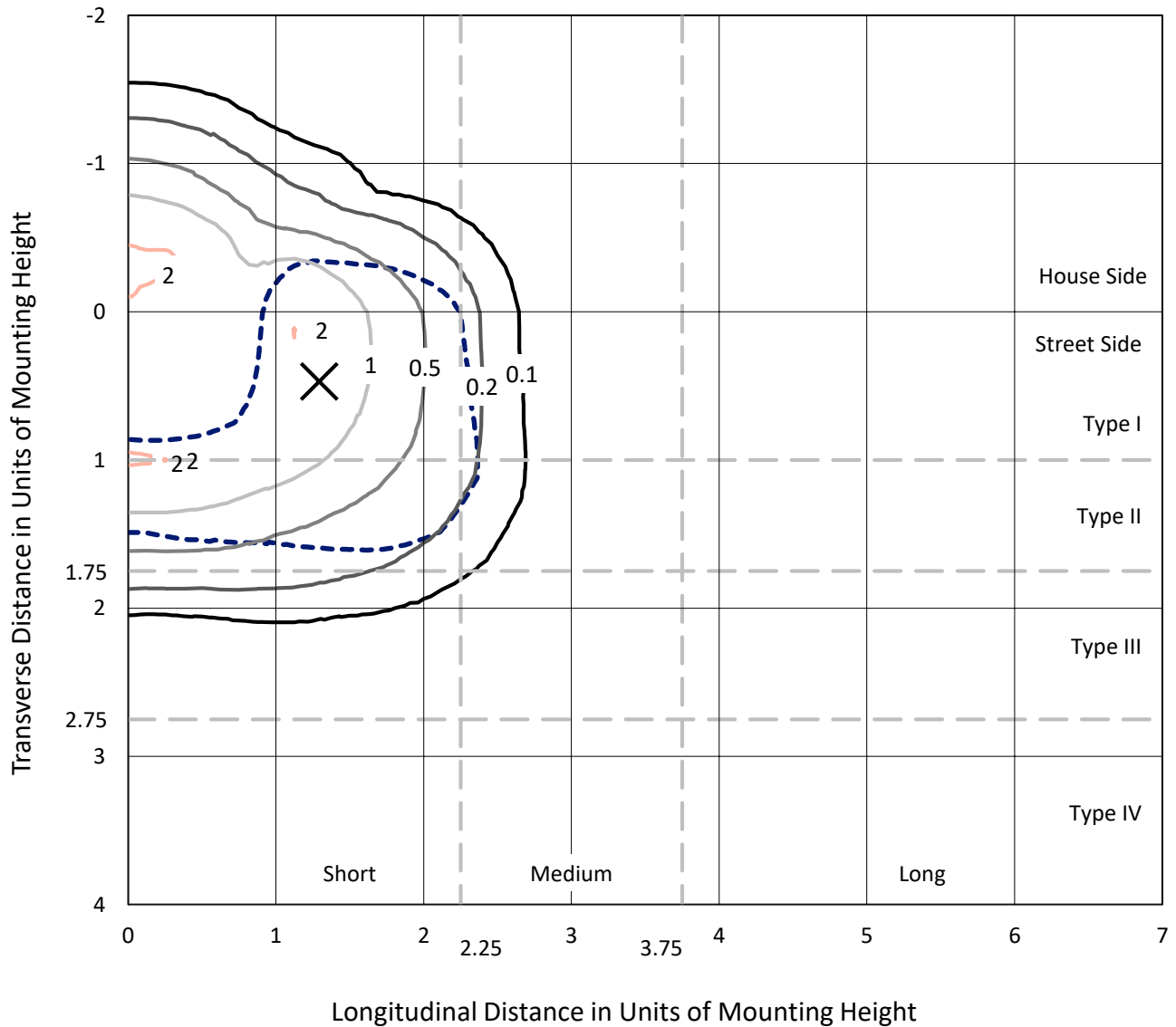
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

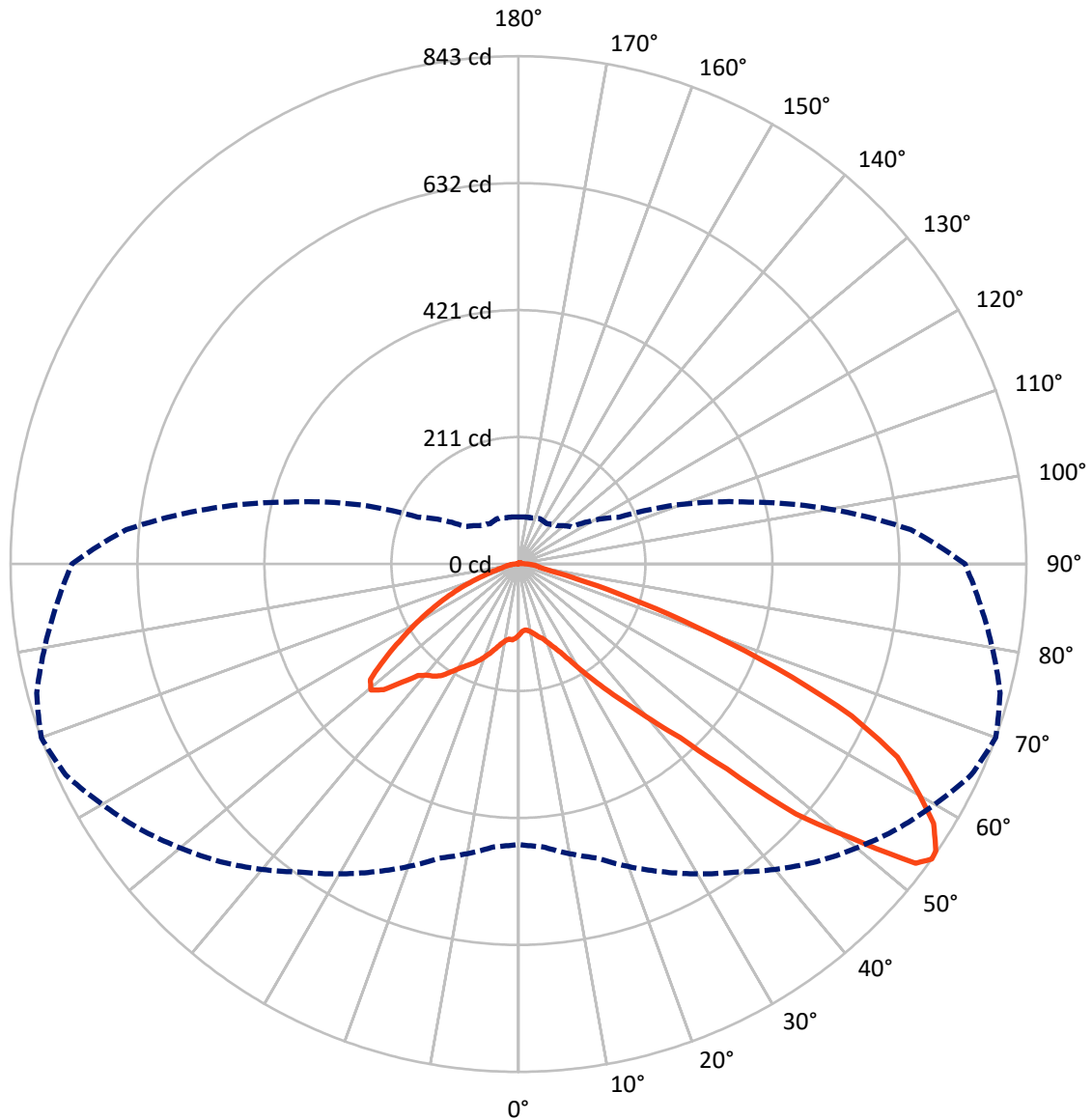
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 2.5 fc
 Type II - Short - Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 70-Deg Lateral - - - Horizontal Cone Through 54-Deg Vertical

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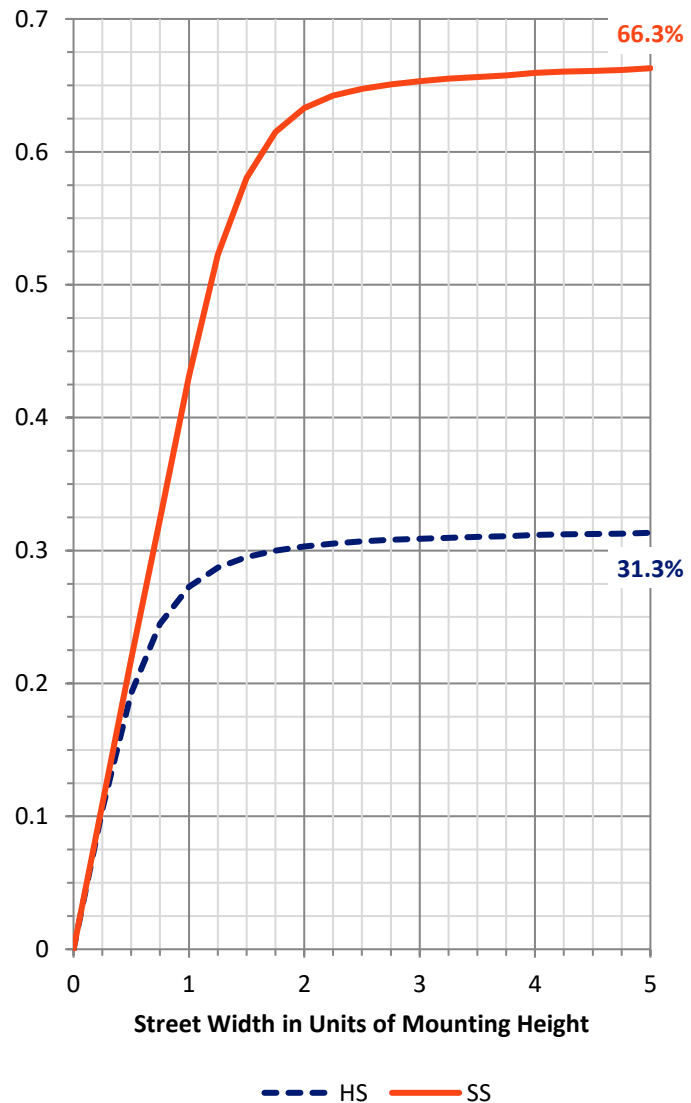
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	411.6	3.7	415.2
	% Fixture	31.8	0.3	32.1
Street Side	Lumens	864.6	15.4	880.0
	% Fixture	66.8	1.2	67.9
Total	Lumens	1276.2	19.0	1295.2
	% Fixture	98.5	1.5	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	12.9	1.0
10°-20°	46.7	3.6
20°-30°	90.8	7.0
30°-40°	152.3	11.8
40°-50°	275.6	21.3
50°-60°	371.0	28.6
60°-70°	239.3	18.5
70°-80°	66.4	5.1
80°-90°	21.1	1.6
90°-100°	4.9	0.4
100°-110°	2.9	0.2
110°-120°	2.4	0.2
120°-130°	2.8	0.2
130°-140°	2.8	0.2
140°-150°	1.9	0.1
150°-160°	0.9	0.1
160°-170°	0.3	0.0
170°-180°	0.0	0.0
0°-90°	1276.2	98.5
0°-180°	1295.2	100.0

Coefficient of Utilization



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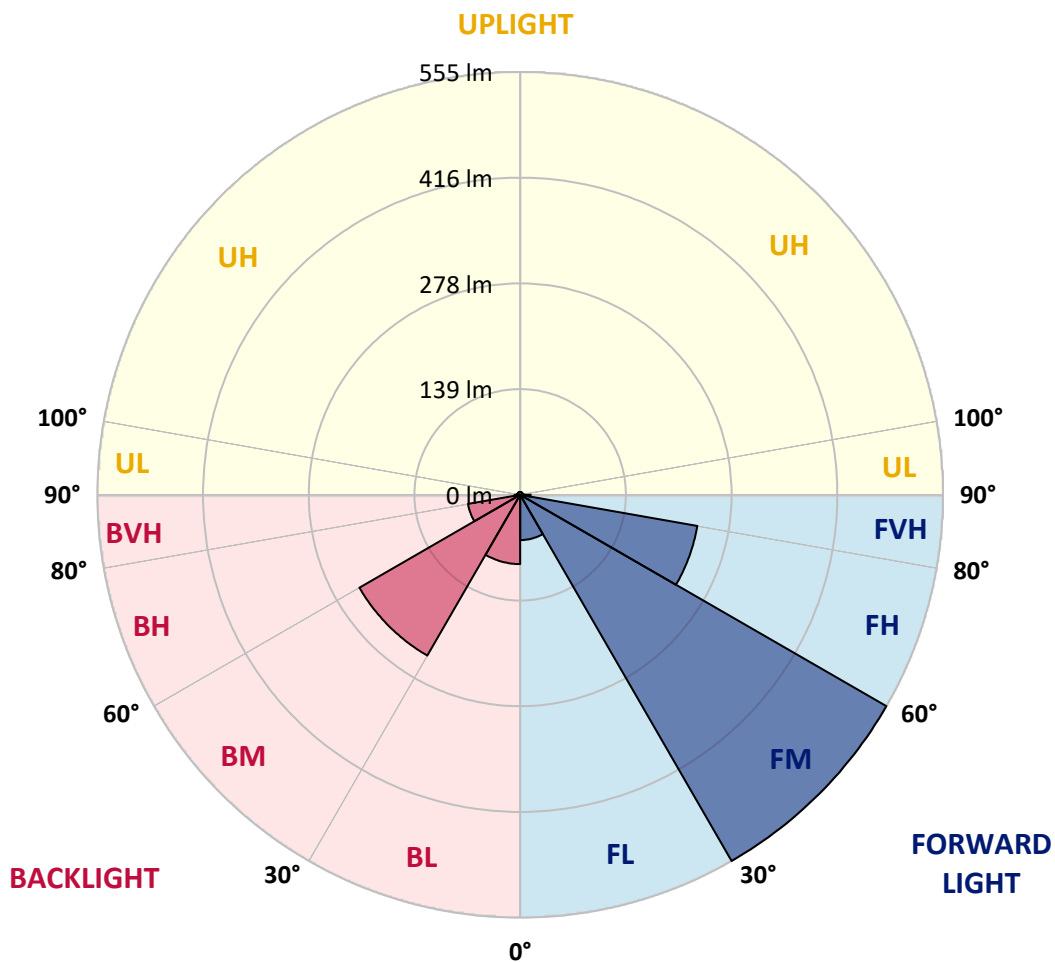
CATALOG NUMBER: QDCAST1B (SINGLE PANEL 0°TILT)

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	59.5	4.6			
FM	(30°-60°)	555.2	42.9			
FH	(60°-80°)	236.3	18.2			G0/660
FVH	(80°-90°)	13.8	1.1			G1/100
BL	(0°-30°)	91.0	7.0	B0/110		
BM	(30°-60°)	243.7	18.8	B1/1000		
BH	(60°-80°)	69.5	5.4	B0/110		G0/110
BVH	(80°-90°)	7.4	0.6			G0/10
UL	(90°-100°)	4.9	0.4		U1/10	
UH	(100°-180°)	3.7	0.3		U1/10	

BUG Rating: B1-U2-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	70°	75°	85°
0°	118.1	118.1	118.1	118.1	118.1	118.1	118.1	118.1	118.1	118.1	118.1
2.5°	105.2	105.2	105.2	105.2	106.4	106.4	108.7	109.9	112.2	112.2	114.6
5°	104.1	104.1	104.1	104.1	105.2	105.2	107.6	108.7	109.9	111.1	112.2
7.5°	105.2	105.2	104.1	105.2	105.2	106.4	108.7	109.9	111.1	112.2	113.4
10°	107.6	107.6	107.6	107.6	107.6	108.7	111.1	113.4	114.6	115.7	118.1
12.5°	112.2	112.2	111.1	109.9	111.1	111.1	114.6	118.1	119.3	120.4	122.8
15°	116.9	116.9	115.7	114.6	114.6	115.7	119.3	122.8	125.1	126.3	128.6
17.5°	120.4	120.4	120.4	120.4	121.6	121.6	123.9	127.4	129.8	132.1	134.5
20°	127.4	126.3	127.4	126.3	128.6	129.8	133.3	136.8	139.1	140.3	143.8
22.5°	134.5	133.3	135.6	134.5	136.8	142.6	145.0	147.3	149.6	150.8	154.3
25°	148.5	147.3	149.6	148.5	149.6	155.5	159.0	160.2	162.5	163.7	166.0
27.5°	167.2	167.2	169.5	166.0	169.5	170.7	177.7	180.0	180.0	180.0	177.7
30°	184.7	184.7	187.1	188.2	188.2	191.7	199.9	204.6	203.4	201.1	194.1
32.5°	208.1	206.9	209.3	212.8	212.8	212.8	226.8	231.5	230.3	228.0	217.5
35°	242.0	238.5	238.5	237.3	236.2	236.2	249.0	261.9	260.7	258.4	251.4
37.5°	284.1	279.4	275.9	271.2	264.2	264.2	275.9	294.6	295.8	298.1	291.1
40°	363.6	355.4	337.9	309.8	300.5	297.0	307.5	329.7	340.2	344.9	346.1
42.5°	508.6	491.0	439.6	376.5	341.4	332.0	344.9	376.5	394.0	408.0	419.7
45°	599.8	597.4	585.7	487.5	408.0	380.0	396.3	452.5	485.2	517.9	542.5
47.5°	595.1	593.9	615.0	610.3	516.8	456.0	489.9	579.9	619.6	640.7	650.0
50°	546.0	550.7	584.6	622.0	633.7	575.2	606.8	678.1	713.2	744.7	751.8
52.5°	494.5	498.1	537.8	589.2	641.9	676.9	710.8	791.5	825.4	827.7	777.5
54°	465.3	471.2	505.1	563.5	624.3	699.1	767.0	828.9	842.9	827.7	769.3
55°	448.9	456.0	485.2	540.1	604.4	700.3	790.3	833.6	840.6	821.9	762.3
57.5°	378.8	378.8	438.4	473.5	540.1	673.4	786.8	814.9	812.6	792.7	730.7
60°	253.7	261.9	323.9	422.1	472.3	595.1	720.2	768.1	758.8	750.6	694.5
62.5°	168.4	163.7	206.9	309.8	423.2	524.9	639.5	715.5	706.2	687.5	623.2
65°	80.7	78.3	119.3	203.4	334.4	460.6	584.6	633.7	608.0	568.2	501.6
67.5°	50.3	49.1	59.6	132.1	216.3	374.1	487.5	507.4	463.0	409.2	335.5
70°	44.4	42.1	46.8	77.2	139.1	257.2	356.6	363.6	314.5	258.4	188.2
72.5°	37.4	36.2	38.6	58.5	91.2	168.4	244.3	235.0	190.6	136.8	91.2
75°	33.9	32.7	36.2	49.1	65.5	106.4	154.3	136.8	100.5	69.0	51.4
77.5°	29.2	29.2	32.7	43.3	50.3	65.5	90.0	76.0	53.8	43.3	46.8
80°	24.6	25.7	30.4	35.1	38.6	44.4	52.6	47.9	37.4	38.6	42.1
82.5°	21.0	21.0	25.7	28.1	31.6	36.2	35.1	35.1	32.7	32.7	35.1
85°	22.2	22.2	24.6	25.7	28.1	31.6	26.9	28.1	26.9	25.7	23.4
87.5°	15.2	16.4	17.5	18.7	19.9	22.2	18.7	19.9	19.9	17.5	12.9
90°	10.5	10.5	11.7	11.7	12.9	14.0	12.9	14.0	14.0	11.7	5.8
92.5°	7.0	7.0	8.2	8.2	9.4	9.4	9.4	8.2	8.2	7.0	3.5
95°	7.0	7.0	7.0	7.0	8.2	8.2	7.0	5.8	5.8	4.7	2.3
97.5°	5.8	7.0	5.8	7.0	7.0	7.0	5.8	4.7	4.7	3.5	2.3
100°	5.8	5.8	5.8	5.8	5.8	5.8	4.7	4.7	4.7	3.5	2.3
102.5°	4.7	4.7	5.8	7.0	5.8	4.7	4.7	4.7	4.7	3.5	3.5
105°	4.7	4.7	5.8	5.8	4.7	4.7	4.7	4.7	4.7	4.7	2.3
107.5°	3.5	3.5	3.5	4.7	4.7	4.7	4.7	4.7	4.7	3.5	2.3



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CATALOG NUMBER: QDCAST1B (SINGLE PANEL 0°TILT)

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	70°	75°	85°
110°	3.5	3.5	4.7	4.7	5.8	4.7	4.7	3.5	3.5	3.5	1.2
112.5°	3.5	3.5	3.5	4.7	4.7	4.7	4.7	3.5	3.5	3.5	1.2
115°	3.5	3.5	4.7	4.7	4.7	4.7	4.7	3.5	3.5	2.3	1.2
117.5°	3.5	3.5	5.8	4.7	4.7	4.7	4.7	3.5	3.5	2.3	1.2
120°	4.7	5.8	7.0	5.8	4.7	4.7	4.7	3.5	3.5	2.3	1.2
122.5°	9.4	8.2	7.0	5.8	5.8	4.7	4.7	3.5	2.3	2.3	1.2
125°	12.9	10.5	7.0	5.8	5.8	5.8	5.8	4.7	3.5	2.3	1.2
127.5°	12.9	12.9	7.0	7.0	7.0	7.0	5.8	4.7	3.5	2.3	1.2
130°	10.5	10.5	11.7	7.0	7.0	5.8	5.8	3.5	3.5	2.3	1.2
132.5°	11.7	11.7	10.5	8.2	7.0	5.8	4.7	3.5	2.3	2.3	1.2
135°	10.5	10.5	9.4	9.4	8.2	7.0	4.7	3.5	3.5	1.2	1.2
137.5°	9.4	9.4	10.5	9.4	8.2	7.0	5.8	3.5	2.3	1.2	1.2
140°	9.4	9.4	9.4	9.4	8.2	7.0	4.7	3.5	2.3	1.2	1.2
142.5°	8.2	8.2	8.2	8.2	7.0	5.8	4.7	2.3	2.3	1.2	1.2
145°	7.0	7.0	7.0	7.0	7.0	5.8	4.7	2.3	1.2	1.2	1.2
147.5°	5.8	5.8	5.8	5.8	5.8	4.7	3.5	2.3	1.2	1.2	1.2
150°	5.8	4.7	5.8	5.8	4.7	4.7	3.5	2.3	1.2	1.2	1.2
152.5°	4.7	4.7	4.7	4.7	4.7	3.5	2.3	1.2	1.2	1.2	1.2
155°	3.5	3.5	3.5	4.7	3.5	3.5	2.3	1.2	1.2	1.2	1.2
157.5°	3.5	3.5	3.5	3.5	3.5	2.3	1.2	1.2	1.2	1.2	1.2
160°	2.3	2.3	2.3	2.3	2.3	2.3	1.2	1.2	1.2	1.2	1.2
162.5°	2.3	2.3	2.3	2.3	2.3	1.2	1.2	1.2	1.2	1.2	1.2
165°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.0	1.2	1.2
167.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
170°	1.2	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2
180°	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: QDCAST1B (SINGLE PANEL 0°TILT)

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	118.1	118.1	118.1	118.1	118.1	118.1	118.1	118.1	118.1	118.1	118.1
2.5°	114.6	116.9	120.4	125.1	129.8	134.5	139.1	143.8	147.3	147.3	148.5
5°	113.4	115.7	121.6	130.9	140.3	153.2	164.8	176.5	183.6	185.9	189.4
7.5°	114.6	115.7	120.4	130.9	147.3	168.4	187.1	208.1	223.3	228.0	231.5
10°	119.3	120.4	123.9	133.3	152.0	178.9	204.6	231.5	252.5	260.7	264.2
12.5°	123.9	125.1	129.8	140.3	162.5	194.1	223.3	249.0	267.7	274.7	277.1
15°	129.8	132.1	136.8	149.6	176.5	212.8	247.9	260.7	268.9	278.3	275.9
17.5°	135.6	139.1	145.0	160.2	191.7	232.7	270.1	272.4	267.7	275.9	278.3
20°	145.0	148.5	154.3	170.7	206.9	251.4	282.9	274.7	263.1	272.4	275.9
22.5°	154.3	157.8	163.7	180.0	221.0	267.7	285.3	275.9	258.4	267.7	271.2
25°	164.8	167.2	171.9	190.6	230.3	272.4	282.9	270.1	251.4	259.5	261.9
27.5°	176.5	176.5	180.0	198.8	237.3	271.2	277.1	264.2	245.5	249.0	251.4
30°	190.6	190.6	190.6	206.9	242.0	271.2	271.2	257.2	237.3	240.8	242.0
32.5°	211.6	210.4	205.8	216.3	246.7	266.6	258.4	244.3	228.0	231.5	232.7
35°	243.2	238.5	224.5	224.5	249.0	256.0	239.7	230.3	215.1	219.8	219.8
37.5°	282.9	273.6	240.8	225.6	245.5	240.8	217.5	214.0	204.6	209.3	210.4
40°	336.7	322.7	256.0	222.1	232.7	218.6	197.6	198.8	192.9	195.2	194.1
42.5°	410.4	385.8	284.1	214.0	209.3	194.1	176.5	177.7	174.2	173.0	173.0
45°	533.1	495.7	337.9	210.4	181.2	163.7	152.0	156.7	154.3	155.5	155.5
47.5°	634.8	588.1	396.3	215.1	152.0	138.0	128.6	135.6	134.5	132.1	132.1
50°	731.9	661.7	432.6	211.6	129.8	115.7	108.7	113.4	109.9	106.4	107.6
52.5°	751.8	674.6	420.9	202.3	114.6	99.4	91.2	93.5	90.0	87.7	86.5
54°	741.2	653.5	396.3	183.6	107.6	90.0	81.8	83.0	79.5	78.3	78.3
55°	730.7	636.0	378.8	168.4	104.1	85.3	76.0	77.2	74.8	73.7	73.7
57.5°	700.3	592.8	337.9	132.1	98.2	74.8	63.1	64.3	63.1	59.6	58.5
60°	658.2	543.6	297.0	105.2	91.2	64.3	53.8	53.8	49.1	47.9	47.9
62.5°	586.9	475.8	252.5	85.3	80.7	57.3	45.6	42.1	42.1	42.1	42.1
65°	478.2	388.2	205.8	70.1	71.3	50.3	38.6	35.1	36.2	35.1	35.1
67.5°	325.0	275.9	160.2	57.3	60.8	44.4	31.6	29.2	29.2	28.1	28.1
70°	184.7	163.7	114.6	46.8	50.3	38.6	26.9	25.7	25.7	23.4	23.4
72.5°	90.0	91.2	78.3	36.2	42.1	32.7	23.4	23.4	23.4	22.2	21.0
75°	52.6	51.4	50.3	28.1	33.9	26.9	21.0	21.0	22.2	19.9	19.9
77.5°	47.9	45.6	32.7	23.4	25.7	22.2	17.5	18.7	19.9	18.7	18.7
80°	43.3	39.8	25.7	18.7	19.9	17.5	16.4	16.4	16.4	16.4	16.4
82.5°	35.1	30.4	19.9	14.0	14.0	12.9	14.0	14.0	14.0	15.2	14.0
85°	23.4	19.9	12.9	11.7	9.4	10.5	12.9	12.9	14.0	15.2	15.2
87.5°	12.9	11.7	8.2	11.7	8.2	9.4	11.7	12.9	15.2	15.2	15.2
90°	4.7	4.7	5.8	4.7	3.5	1.2	3.5	5.8	7.0	3.5	2.3
92.5°	3.5	3.5	3.5	3.5	2.3	0.0	1.2	1.2	2.3	1.2	1.2
95°	2.3	2.3	3.5	3.5	1.2	0.0	1.2	1.2	1.2	1.2	1.2
97.5°	2.3	2.3	2.3	2.3	1.2	0.0	1.2	1.2	1.2	1.2	1.2
100°	2.3	2.3	1.2	2.3	1.2	0.0	0.0	1.2	1.2	1.2	1.2
102.5°	2.3	2.3	1.2	1.2	0.0	0.0	1.2	1.2	1.2	1.2	1.2
105°	2.3	1.2	1.2	1.2	0.0	0.0	1.2	1.2	1.2	1.2	1.2
107.5°	1.2	1.2	1.2	1.2	0.0	0.0	1.2	1.2	1.2	1.2	1.2



REPORT NUMBER: P188099

CATALOG NUMBER: QDCAST1B (SINGLE PANEL 0°TILT)

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	1.2	1.2	1.2	1.2	1.2	0.0	1.2	1.2	1.2	1.2	1.2
112.5°	1.2	1.2	1.2	1.2	1.2	0.0	1.2	1.2	1.2	1.2	1.2
115°	1.2	1.2	1.2	1.2	0.0	0.0	1.2	1.2	1.2	1.2	1.2
117.5°	1.2	1.2	1.2	1.2	0.0	0.0	1.2	1.2	1.2	1.2	1.2
120°	1.2	1.2	1.2	1.2	1.2	0.0	1.2	1.2	1.2	1.2	1.2
122.5°	1.2	1.2	1.2	1.2	0.0	0.0	1.2	1.2	1.2	1.2	1.2
125°	1.2	1.2	1.2	1.2	0.0	0.0	1.2	1.2	1.2	1.2	1.2
127.5°	1.2	1.2	1.2	1.2	0.0	0.0	1.2	1.2	1.2	1.2	1.2
130°	1.2	1.2	1.2	1.2	0.0	0.0	1.2	1.2	1.2	1.2	1.2
132.5°	1.2	1.2	1.2	2.3	0.0	0.0	1.2	1.2	1.2	1.2	1.2
135°	1.2	1.2	1.2	1.2	0.0	1.2	1.2	1.2	1.2	1.2	1.2
137.5°	1.2	1.2	1.2	1.2	1.2	0.0	1.2	1.2	1.2	1.2	1.2
140°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
142.5°	1.2	1.2	0.0	1.2	1.2	1.2	0.0	1.2	1.2	1.2	1.2
145°	1.2	1.2	1.2	1.2	1.2	2.3	1.2	1.2	1.2	1.2	1.2
147.5°	1.2	1.2	1.2	1.2	1.2	1.2	2.3	1.2	1.2	1.2	1.2
150°	1.2	1.2	1.2	1.2	1.2	1.2	2.3	1.2	1.2	1.2	1.2
152.5°	1.2	1.2	1.2	1.2	1.2	1.2	2.3	1.2	1.2	2.3	2.3
155°	1.2	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	2.3	2.3
157.5°	1.2	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2
162.5°	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2
165°	1.2	1.2	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2
167.5°	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2
170°	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2
172.5°	1.2	1.2	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2
175°	1.2	1.2	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2
177.5°	1.2	1.2	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2
180°	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)