

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: P188101

Luminaire Tested: **QDCAST1B (4PANELS 5°TILT)**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188101
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P22241)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: QDCAST1B (4PANELS 5°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: 5102.4 lumens
Efficiency: N/A
Efficacy: 94.5 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1.23' x L: 1.23' x H: 0.08')
IES Classification: Type V - Short - Cutoff
BUG Rating: B2 - U3 - G1

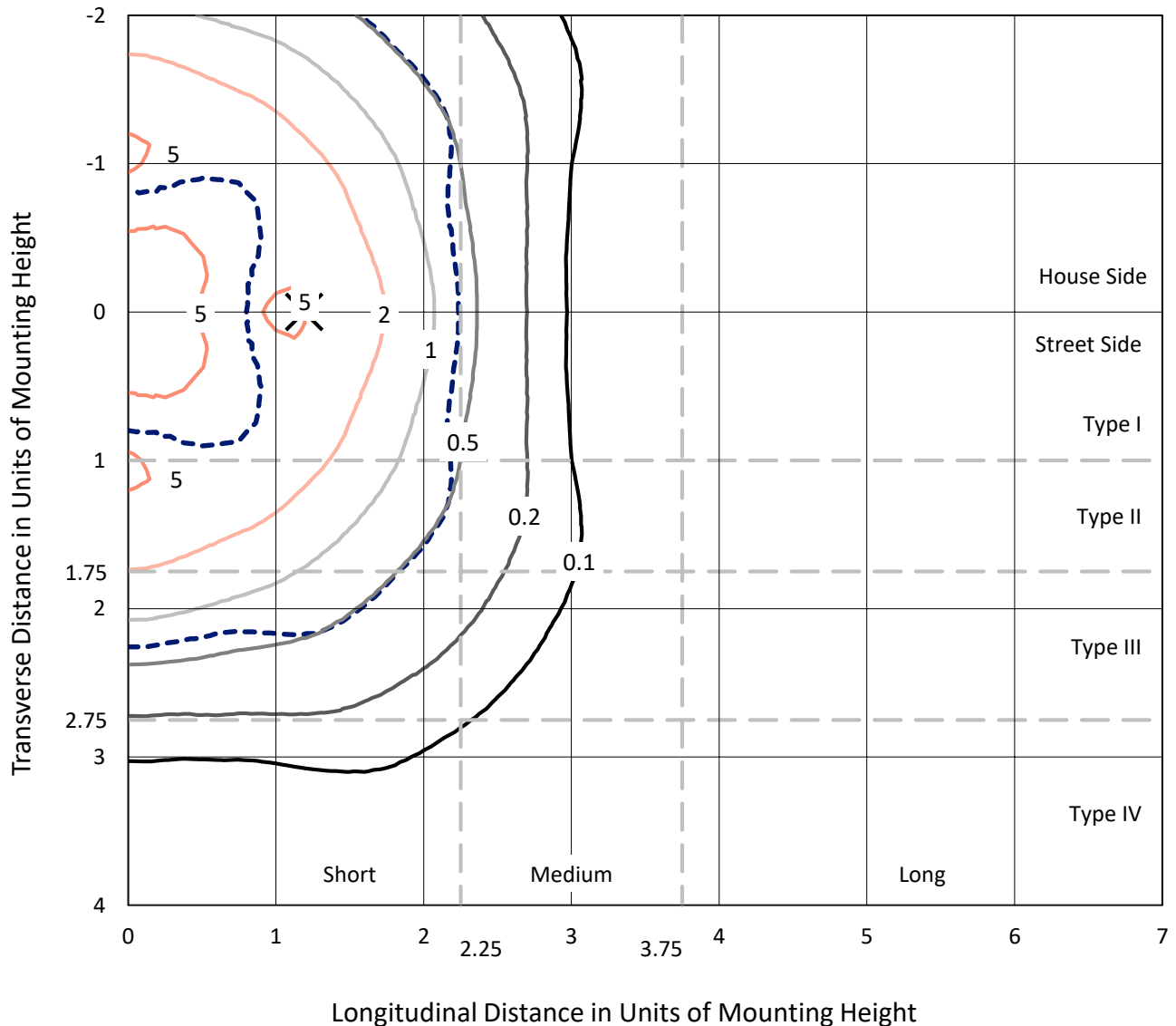
Input Watts (W): 54
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

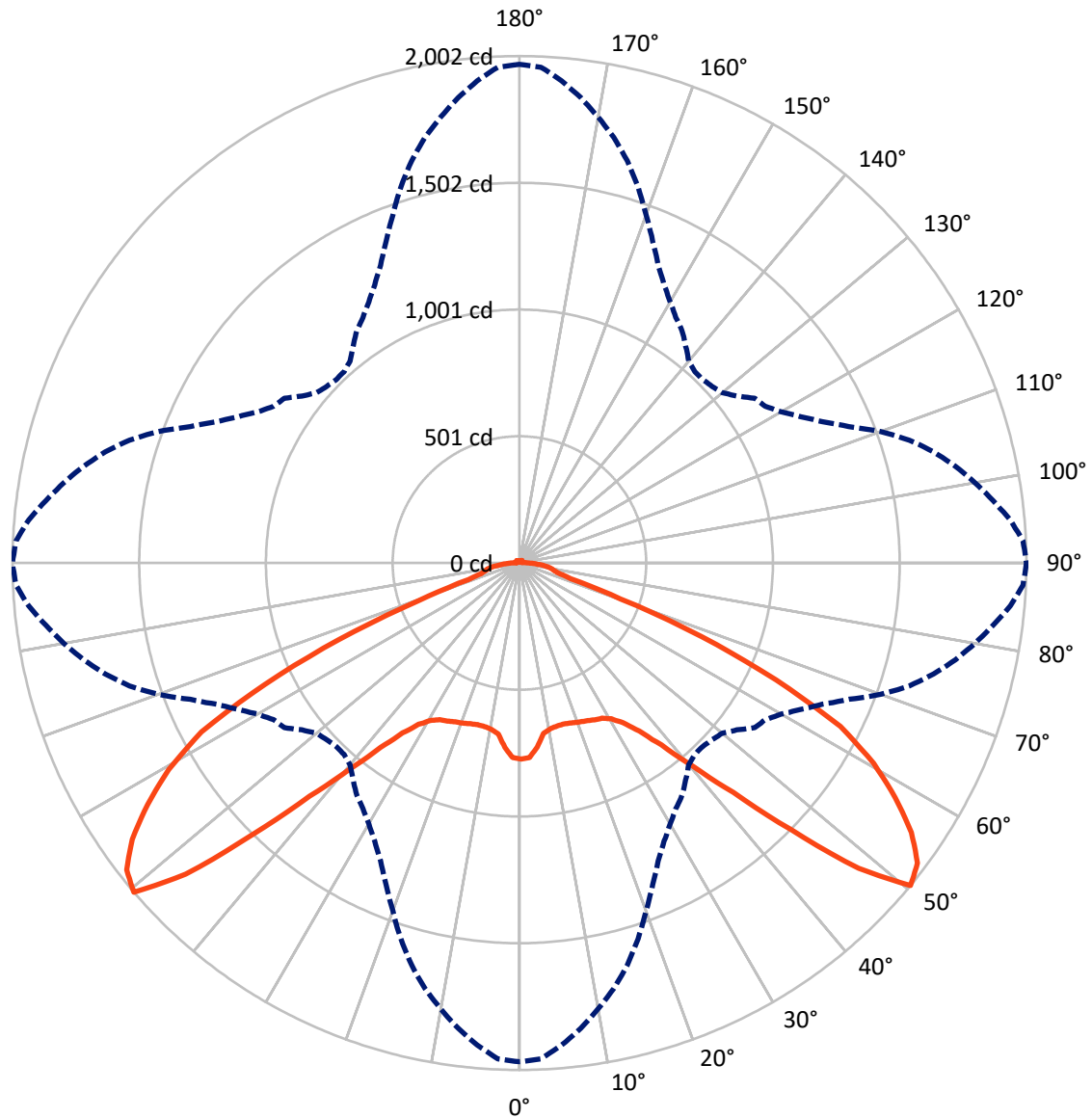
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.8 fc
 Type V - Short - Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 50-Deg Vertical

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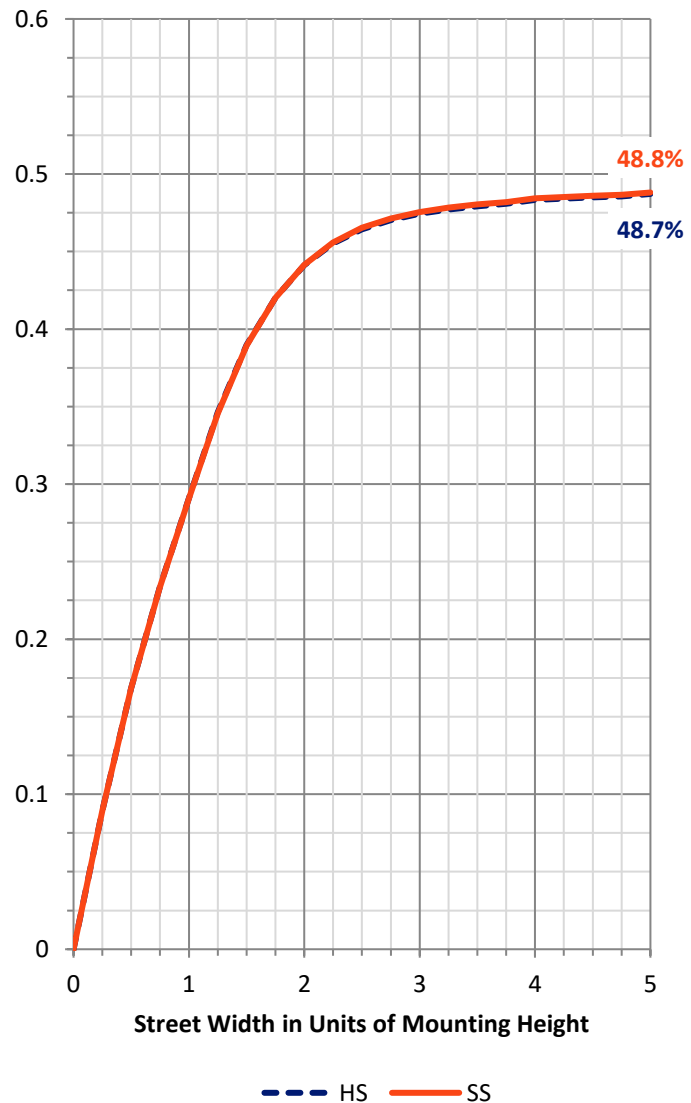
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2512.3	38.9	2551.2
	% Fixture	49.2	0.8	50.0
Street Side	Lumens	2512.3	38.9	2551.2
	% Fixture	49.2	0.8	50.0
Total	Lumens	5024.6	77.7	5102.4
	% Fixture	98.5	1.5	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.3	1.3
10°-20°	201.8	4.0
20°-30°	348.2	6.8
30°-40°	531.9	10.4
40°-50°	890.1	17.4
50°-60°	1400.1	27.4
60°-70°	1118.2	21.9
70°-80°	367.1	7.2
80°-90°	98.7	1.9
90°-100°	26.6	0.5
100°-110°	11.4	0.2
110°-120°	7.7	0.2
120°-130°	8.8	0.2
130°-140°	10.5	0.2
140°-150°	7.7	0.2
150°-160°	3.9	0.1
160°-170°	1.1	0.0
170°-180°	0.1	0.0
0°-90°	5024.6	98.5
0°-180°	5102.4	100.0



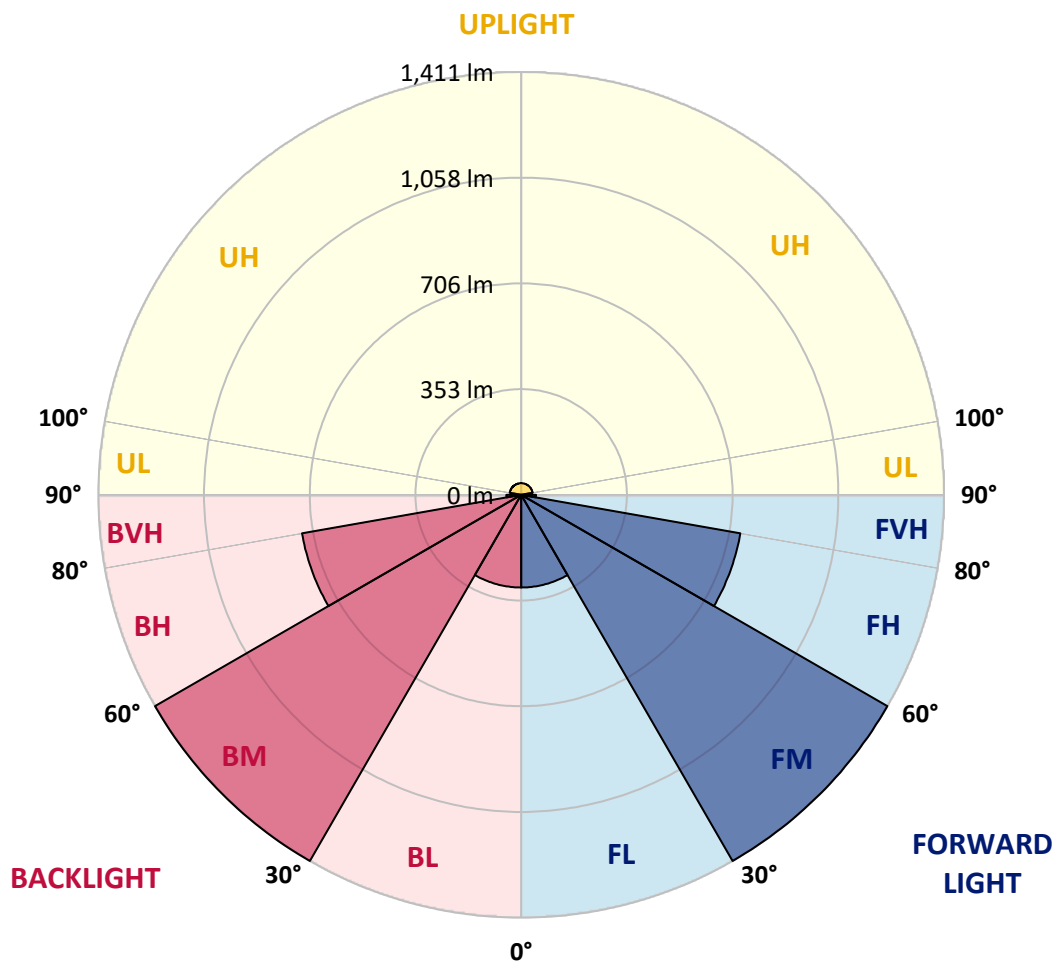
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	309.2	6.1			
FM	(30°-60°)	1411.1	27.7			
FH	(60°-80°)	742.7	14.6			G1/1800
FVH	(80°-90°)	49.4	1.0			G1/100
BL	(0°-30°)	309.2	6.1	B1/500		
BM	(30°-60°)	1411.1	27.7	B2/2500		
BH	(60°-80°)	742.7	14.6	B2/1000		G1/1800
BVH	(80°-90°)	49.4	1.0			G1/100
UL	(90°-100°)	26.6	0.5		U2/50	
UH	(100°-180°)	38.9	0.8		U2/50	

BUG Rating: B2-U3-G1

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	775.0	775.0	775.0	775.0	775.0	775.0	775.0	775.0	775.0	775.0	775.0
2.5°	771.5	770.3	770.3	771.5	772.7	772.7	773.8	773.8	771.5	772.7	771.5
5°	736.4	735.3	735.3	735.3	736.4	736.4	737.6	738.8	735.3	736.4	735.3
7.5°	689.7	688.5	689.7	689.7	692.0	692.0	694.3	696.7	695.5	696.7	697.9
10°	672.1	671.0	673.3	674.5	678.0	680.3	683.8	688.5	688.5	692.0	695.5
12.5°	664.0	662.8	666.3	668.6	673.3	678.0	682.7	688.5	690.8	696.7	703.7
15°	661.6	660.5	664.0	667.5	672.1	678.0	683.8	689.7	695.5	703.7	711.9
17.5°	665.1	665.1	667.5	672.1	678.0	681.5	688.5	696.7	704.9	714.2	723.6
20°	675.6	674.5	675.6	679.2	686.2	690.8	700.2	709.5	718.9	728.2	738.8
22.5°	686.2	685.0	687.3	689.7	696.7	700.2	709.5	722.4	731.8	741.1	752.8
25°	701.4	701.4	704.9	708.4	713.1	713.1	724.7	736.4	742.3	751.6	763.3
27.5°	722.4	722.4	725.9	728.2	732.9	734.1	744.6	754.0	761.0	766.8	776.2
30°	750.5	750.5	754.0	757.5	761.0	761.0	769.2	778.5	784.4	790.2	797.2
32.5°	796.0	797.2	798.4	801.9	801.9	801.9	810.1	815.9	819.4	822.9	826.4
35°	852.2	852.2	852.2	851.0	848.6	842.8	848.6	855.7	855.7	856.8	859.2
37.5°	930.5	927.0	922.3	914.1	907.1	896.6	897.7	895.4	889.6	887.2	886.1
40°	1041.5	1035.7	1024.0	1008.8	988.9	970.2	958.5	943.3	927.0	915.3	907.1
42.5°	1199.3	1192.3	1171.3	1143.2	1109.3	1076.6	1045.0	1015.8	983.1	957.4	936.3
45°	1474.0	1460.0	1424.9	1378.2	1325.6	1263.6	1208.7	1142.1	1081.3	1034.5	991.3
47.5°	1747.6	1732.4	1682.1	1627.2	1560.5	1499.7	1429.6	1354.8	1269.5	1190.0	1115.2
50°	1969.7	1960.3	1911.2	1853.9	1788.5	1721.8	1644.7	1557.0	1462.3	1375.8	1297.5
52.5°	1968.5	1959.1	1915.9	1862.1	1820.0	1776.8	1732.4	1678.6	1609.6	1538.3	1476.4
55°	1871.5	1863.3	1830.6	1780.3	1742.9	1707.8	1678.6	1647.0	1608.5	1574.6	1555.9
57.5°	1749.9	1747.6	1723.0	1671.6	1644.7	1613.1	1590.9	1561.7	1526.6	1516.1	1517.3
60°	1619.0	1617.8	1595.6	1546.5	1513.8	1488.1	1463.5	1434.3	1409.7	1412.1	1427.3
62.5°	1407.4	1417.9	1398.0	1366.5	1354.8	1339.6	1323.2	1290.5	1280.0	1289.3	1302.2
65°	1131.5	1140.9	1131.5	1108.2	1103.5	1103.5	1100.0	1101.1	1121.0	1152.6	1171.3
67.5°	818.3	817.1	815.9	805.4	821.8	832.3	833.5	852.2	893.1	936.3	981.9
70°	461.7	466.4	459.4	466.4	501.5	536.5	554.1	595.0	644.1	697.9	749.3
72.5°	260.7	264.2	265.3	267.7	282.9	303.9	326.1	371.7	422.0	480.4	536.5
75°	164.8	164.8	163.7	162.5	170.7	182.4	192.9	223.3	263.0	307.4	357.7
77.5°	143.8	141.4	137.9	134.4	130.9	130.9	134.4	146.1	166.0	195.2	227.9
80°	128.6	127.4	123.9	120.4	115.7	113.4	111.0	112.2	119.2	133.3	150.8
82.5°	107.5	106.4	102.9	100.5	98.2	97.0	95.9	95.9	98.2	102.9	109.9
85°	81.8	80.7	78.3	77.1	78.3	80.7	80.7	80.7	83.0	85.3	87.7
87.5°	59.6	58.4	58.4	60.8	62.0	65.5	66.6	67.8	70.1	70.1	71.3
90°	36.2	38.6	40.9	44.4	46.8	50.3	52.6	54.9	54.9	54.9	54.9
92.5°	21.0	21.0	22.2	24.5	26.9	31.6	32.7	33.9	35.1	33.9	35.1
95°	15.2	15.2	16.4	17.5	17.5	18.7	19.9	21.0	21.0	21.0	21.0
97.5°	11.7	11.7	12.9	15.2	14.0	14.0	14.0	14.0	15.2	15.2	15.2
100°	11.7	11.7	11.7	12.9	11.7	11.7	12.9	12.9	12.9	12.9	14.0
102.5°	11.7	11.7	11.7	12.9	11.7	11.7	11.7	11.7	11.7	11.7	11.7
105°	9.4	9.4	9.4	11.7	10.5	10.5	10.5	10.5	10.5	10.5	9.4
107.5°	8.2	8.2	8.2	9.4	9.4	9.4	10.5	10.5	10.5	10.5	10.5
110°	7.0	7.0	7.0	8.2	9.4	9.4	9.4	10.5	10.5	10.5	9.4



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 CATALOG NUMBER: QDCAST1B (4PANELS 5°TILT)

CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
112.5°	5.8	5.8	5.8	5.8	7.0	7.0	7.0	8.2	8.2	8.2	8.2
115°	5.8	5.8	5.8	5.8	5.8	7.0	7.0	7.0	7.0	7.0	7.0
117.5°	5.8	5.8	5.8	5.8	5.8	7.0	7.0	8.2	8.2	8.2	8.2
120°	4.7	4.7	4.7	5.8	5.8	7.0	8.2	8.2	8.2	9.4	8.2
122.5°	4.7	5.8	5.8	7.0	8.2	9.4	9.4	9.4	9.4	9.4	9.4
125°	7.0	7.0	8.2	8.2	9.4	9.4	10.5	10.5	10.5	10.5	10.5
127.5°	10.5	10.5	9.4	9.4	9.4	10.5	10.5	10.5	11.7	11.7	11.7
130°	14.0	12.9	12.9	10.5	10.5	10.5	10.5	11.7	11.7	11.7	12.9
132.5°	12.9	14.0	14.0	14.0	14.0	12.9	11.7	11.7	11.7	11.7	11.7
135°	11.7	11.7	12.9	12.9	14.0	15.2	15.2	16.4	15.2	15.2	14.0
137.5°	12.9	12.9	12.9	12.9	14.0	14.0	14.0	15.2	15.2	15.2	14.0
140°	11.7	11.7	11.7	11.7	11.7	12.9	12.9	12.9	14.0	14.0	14.0
142.5°	10.5	10.5	10.5	10.5	10.5	11.7	11.7	12.9	12.9	12.9	12.9
145°	9.4	9.4	9.4	9.4	10.5	10.5	10.5	11.7	11.7	11.7	12.9
147.5°	8.2	8.2	9.4	9.4	9.4	9.4	9.4	10.5	10.5	11.7	11.7
150°	8.2	8.2	8.2	9.4	9.4	9.4	9.4	9.4	10.5	10.5	10.5
152.5°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	9.4	9.4	9.4
155°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	8.2	8.2	8.2
157.5°	5.8	5.8	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
160°	4.7	4.7	4.7	4.7	4.7	4.7	5.8	5.8	5.8	5.8	5.8
162.5°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
165°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
167.5°	2.3	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5	3.5	3.5
170°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
172.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
175°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
177.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.0	0.0	0.0
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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CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°	50°	52.5°
0°	775.0	775.0	775.0	775.0	775.0	775.0	775.0	775.0	775.0	775.0	775.0
2.5°	771.5	771.5	770.3	771.5	771.5	771.5	771.5	771.5	771.5	771.5	771.5
5°	734.1	735.3	734.1	735.3	735.3	735.3	735.3	735.3	734.1	734.1	734.1
7.5°	697.9	697.9	697.9	699.0	700.2	701.4	703.7	703.7	703.7	701.4	700.2
10°	701.4	703.7	709.5	710.7	714.2	716.6	717.7	717.7	715.4	713.1	709.5
12.5°	709.5	717.7	724.7	732.9	738.8	744.6	748.1	748.1	745.8	742.3	735.3
15°	722.4	732.9	742.3	750.5	761.0	768.0	772.7	776.2	773.8	766.8	757.5
17.5°	735.3	747.0	758.6	769.2	777.3	786.7	789.0	792.5	790.2	784.4	776.2
20°	749.3	762.1	775.0	784.4	792.5	796.0	797.2	799.6	797.2	793.7	789.0
22.5°	764.5	777.3	785.5	796.0	801.9	803.1	803.1	801.9	800.7	799.6	796.0
25°	777.3	789.0	798.4	805.4	810.1	810.1	807.7	805.4	805.4	806.6	804.2
27.5°	787.9	799.6	808.9	814.7	817.1	815.9	815.9	814.7	815.9	814.7	811.2
30°	807.7	815.9	821.8	826.4	825.3	824.1	825.3	822.9	820.6	820.6	817.1
32.5°	835.8	841.6	842.8	841.6	839.3	835.8	832.3	832.3	827.6	826.4	827.6
35°	862.7	863.8	863.8	860.3	849.8	840.5	835.8	829.9	831.1	833.5	837.0
37.5°	887.2	884.9	879.0	872.0	859.2	842.8	832.3	825.3	826.4	839.3	849.8
40°	903.6	897.7	889.6	882.5	866.2	842.8	833.5	828.8	831.1	841.6	865.0
42.5°	924.6	915.3	908.3	900.1	879.0	856.8	848.6	847.5	848.6	854.5	879.0
45°	963.2	945.7	936.3	928.1	904.8	881.4	873.2	874.4	876.7	883.7	908.3
47.5°	1056.7	1015.8	998.3	984.2	958.5	932.8	923.5	925.8	929.3	937.5	962.0
50°	1237.9	1190.0	1150.2	1119.8	1078.9	1040.4	1025.2	1024.0	1032.2	1046.2	1082.4
52.5°	1419.1	1378.2	1337.3	1312.7	1268.3	1219.2	1205.2	1202.8	1205.2	1228.6	1276.5
55°	1538.3	1514.9	1489.2	1472.9	1441.3	1400.4	1388.7	1396.9	1407.4	1435.5	1477.5
57.5°	1523.1	1531.3	1530.1	1530.1	1525.5	1506.8	1498.6	1502.1	1507.9	1520.8	1539.5
60°	1441.3	1451.8	1470.5	1478.7	1486.9	1479.9	1482.2	1478.7	1482.2	1483.4	1491.6
62.5°	1313.9	1331.4	1351.3	1360.6	1366.5	1364.2	1365.3	1364.2	1364.2	1365.3	1363.0
65°	1190.0	1200.5	1209.9	1207.5	1208.7	1208.7	1212.2	1208.7	1207.5	1208.7	1206.3
67.5°	1022.8	1059.1	1069.6	1066.1	1063.7	1057.9	1054.4	1049.7	1050.9	1059.1	1063.7
70°	799.6	835.8	860.3	881.4	889.6	898.9	901.3	897.7	897.7	901.3	891.9
72.5°	586.8	618.4	640.6	654.6	669.8	688.5	695.5	694.3	689.7	682.7	658.1
75°	410.3	445.4	454.7	459.4	468.7	475.8	481.6	476.9	472.3	467.6	453.5
77.5°	266.5	295.7	305.1	312.1	319.1	325.0	322.6	318.0	313.3	312.1	300.4
80°	171.8	189.4	194.0	198.7	204.6	206.9	203.4	201.1	194.0	195.2	189.4
82.5°	119.2	126.2	128.6	132.1	135.6	136.8	134.4	133.3	130.9	129.8	126.2
85°	90.0	92.3	92.3	94.7	97.0	99.4	98.2	97.0	94.7	93.5	91.2
87.5°	71.3	71.3	71.3	71.3	73.6	76.0	78.3	79.5	78.3	73.6	70.1
90°	53.8	52.6	52.6	51.4	52.6	54.9	56.1	57.3	56.1	53.8	51.4
92.5°	35.1	33.9	33.9	32.7	32.7	33.9	36.2	36.2	35.1	33.9	32.7
95°	21.0	21.0	21.0	21.0	21.0	21.0	22.2	22.2	22.2	21.0	21.0
97.5°	15.2	16.4	16.4	16.4	16.4	16.4	17.5	17.5	17.5	16.4	16.4
100°	14.0	14.0	14.0	14.0	14.0	15.2	15.2	15.2	15.2	15.2	14.0
102.5°	11.7	10.5	10.5	10.5	11.7	11.7	12.9	12.9	12.9	11.7	11.7
105°	10.5	9.4	10.5	10.5	10.5	11.7	10.5	10.5	10.5	11.7	10.5
107.5°	10.5	10.5	10.5	10.5	10.5	9.4	9.4	9.4	9.4	9.4	9.4
110°	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4



REPORT NUMBER: P188101

CATALOG NUMBER: QDCAST1B (4PANELS 5°TILT)

CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°	50°	52.5°
112.5°	8.2	8.2	8.2	8.2	8.2	9.4	9.4	9.4	9.4	9.4	9.4
115°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
117.5°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
120°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
122.5°	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
125°	10.5	10.5	10.5	10.5	10.5	9.4	9.4	9.4	9.4	9.4	10.5
127.5°	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
130°	12.9	11.7	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9
132.5°	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9
135°	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
137.5°	14.0	15.2	15.2	15.2	15.2	15.2	15.2	14.0	14.0	14.0	15.2
140°	14.0	14.0	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2
142.5°	14.0	14.0	14.0	14.0	14.0	15.2	15.2	15.2	15.2	15.2	15.2
145°	12.9	12.9	14.0	14.0	14.0	14.0	15.2	15.2	15.2	15.2	15.2
147.5°	12.9	12.9	12.9	12.9	12.9	14.0	12.9	14.0	14.0	14.0	14.0
150°	10.5	11.7	11.7	11.7	11.7	11.7	11.7	11.7	12.9	12.9	12.9
152.5°	9.4	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
155°	8.2	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
157.5°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
160°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
162.5°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
165°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
167.5°	3.5	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
170°	2.3	2.3	2.3	2.3	2.3	2.3	1.2	1.2	2.3	1.2	2.3
172.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
175°	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P188101
 CATALOG NUMBER: QDCAST1B (4PANELS 5°TILT)

CANDELA DISTRIBUTION (continued):

	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77.5°	80°
0°	775.0	775.0	775.0	775.0	775.0	775.0	775.0	775.0	775.0	775.0	775.0
2.5°	770.3	771.5	771.5	771.5	773.8	771.5	772.7	773.8	773.8	773.8	772.7
5°	732.9	734.1	731.8	731.8	734.1	734.1	732.9	735.3	735.3	734.1	732.9
7.5°	699.0	697.9	695.5	694.3	692.0	690.8	690.8	690.8	688.5	687.3	683.8
10°	707.2	703.7	700.2	697.9	692.0	688.5	686.2	682.7	679.2	675.6	672.1
12.5°	728.2	720.1	714.2	707.2	700.2	694.3	689.7	683.8	680.3	675.6	669.8
15°	749.3	737.6	729.4	717.7	706.0	699.0	692.0	685.0	680.3	675.6	669.8
17.5°	766.8	756.3	741.1	728.2	715.4	703.7	696.7	688.5	681.5	679.2	674.5
20°	782.0	770.3	754.0	739.9	727.1	715.4	704.9	696.7	688.5	683.8	680.3
22.5°	790.2	780.9	765.7	750.5	736.4	722.4	715.4	707.2	697.9	694.3	687.3
25°	797.2	787.9	775.0	759.8	745.8	731.8	720.1	714.2	706.0	699.0	693.2
27.5°	805.4	794.9	783.2	769.2	754.0	742.3	730.6	722.4	713.1	708.4	703.7
30°	814.7	806.6	796.0	783.2	769.2	756.3	744.6	737.6	730.6	725.9	723.6
32.5°	828.8	826.4	819.4	806.6	793.7	785.5	777.3	769.2	764.5	758.6	757.5
35°	844.0	846.3	841.6	834.6	826.4	820.6	818.3	813.6	812.4	810.1	810.1
37.5°	856.8	861.5	860.3	859.2	860.3	861.5	866.2	869.7	875.5	880.2	889.6
40°	875.5	882.5	881.4	888.4	895.4	903.6	918.8	935.2	953.9	971.4	993.6
42.5°	897.7	903.6	907.1	917.6	936.3	957.4	986.6	1021.7	1059.1	1097.6	1138.5
45°	936.3	944.5	951.5	969.0	998.3	1041.5	1096.5	1153.7	1220.4	1280.0	1341.9
47.5°	995.9	1012.3	1029.8	1062.6	1112.8	1178.3	1266.0	1347.8	1434.3	1522.0	1597.9
50°	1133.9	1151.4	1193.5	1251.9	1319.7	1407.4	1517.3	1614.3	1693.8	1763.9	1827.1
52.5°	1338.4	1380.5	1447.1	1503.3	1539.5	1586.2	1648.2	1704.3	1749.9	1788.5	1829.4
55°	1519.6	1541.8	1562.9	1573.4	1585.1	1595.6	1624.8	1659.9	1691.5	1723.0	1753.4
57.5°	1553.5	1553.5	1550.0	1540.7	1534.8	1529.0	1538.3	1565.2	1596.8	1615.5	1642.4
60°	1484.6	1481.0	1469.4	1455.3	1439.0	1424.9	1417.9	1433.1	1465.8	1484.6	1510.3
62.5°	1360.6	1358.3	1339.6	1322.1	1305.7	1290.5	1281.2	1287.0	1326.7	1338.4	1356.0
65°	1204.0	1208.7	1202.8	1187.6	1176.0	1157.2	1130.4	1107.0	1116.3	1104.6	1095.3
67.5°	1068.4	1076.6	1063.7	1034.5	995.9	946.8	898.9	853.3	839.3	820.6	805.4
70°	880.2	868.5	833.5	797.2	748.1	700.2	639.4	579.8	549.4	516.7	479.3
72.5°	642.9	624.2	602.0	570.4	515.5	458.2	393.9	342.5	300.4	267.7	238.5
75°	443.0	430.2	412.6	379.9	329.6	274.7	230.3	194.0	169.5	159.0	152.0
77.5°	288.7	277.0	263.0	237.3	202.2	169.5	143.8	129.8	123.9	123.9	127.4
80°	181.2	173.0	167.2	149.6	132.1	118.1	111.0	107.5	107.5	109.9	113.4
82.5°	121.6	116.9	113.4	108.7	102.9	99.4	97.0	94.7	93.5	94.7	95.9
85°	88.8	86.5	86.5	86.5	86.5	84.2	81.8	79.5	77.1	77.1	74.8
87.5°	69.0	69.0	69.0	70.1	69.0	69.0	67.8	65.5	63.1	62.0	58.4
90°	51.4	52.6	52.6	53.8	53.8	53.8	53.8	51.4	49.1	46.8	43.3
92.5°	32.7	33.9	33.9	33.9	33.9	33.9	33.9	32.7	32.7	30.4	26.9
95°	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	19.9	18.7	17.5
97.5°	16.4	16.4	16.4	15.2	15.2	15.2	15.2	14.0	14.0	14.0	14.0
100°	14.0	14.0	14.0	14.0	14.0	12.9	12.9	12.9	11.7	11.7	11.7
102.5°	10.5	10.5	10.5	10.5	11.7	11.7	11.7	11.7	11.7	11.7	11.7
105°	10.5	9.4	9.4	9.4	9.4	9.4	10.5	10.5	10.5	10.5	10.5
107.5°	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	9.4
110°	9.4	9.4	9.4	9.4	9.4	10.5	10.5	10.5	10.5	9.4	9.4

REPORT NUMBER: P188101
 CATALOG NUMBER: QDCAST1B (4PANELS 5°TILT)

REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77.5°	80°	
112.5°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	7.0	0°
115°	8.2	8.2	8.2	8.2	8.2	7.0	7.0	7.0	7.0	7.0	7.0	2.5°
117.5°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	7.0	7.0	7.0	5°
120°	8.2	8.2	8.2	9.4	9.4	9.4	9.4	9.4	8.2	7.0	7.0	7.5°
122.5°	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	8.2	10°
125°	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	9.4	9.4	12.5°
127.5°	11.7	11.7	11.7	11.7	11.7	11.7	10.5	10.5	10.5	10.5	10.5	15°
130°	12.9	12.9	12.9	12.9	12.9	11.7	11.7	10.5	10.5	10.5	10.5	17.5°
132.5°	12.9	12.9	12.9	12.9	12.9	11.7	11.7	11.7	11.7	12.9	12.9	20°
135°	14.0	14.0	14.0	14.0	14.0	15.2	15.2	16.4	15.2	15.2	14.0	22.5°
137.5°	15.2	14.0	14.0	14.0	14.0	14.0	15.2	15.2	14.0	14.0	14.0	25°
140°	15.2	15.2	15.2	15.2	15.2	14.0	14.0	14.0	12.9	12.9	11.7	27.5°
142.5°	15.2	14.0	14.0	14.0	14.0	12.9	12.9	12.9	11.7	11.7	11.7	30°
145°	14.0	14.0	14.0	12.9	12.9	12.9	11.7	11.7	11.7	10.5	10.5	32.5°
147.5°	14.0	14.0	12.9	12.9	11.7	11.7	10.5	10.5	10.5	10.5	9.4	35°
150°	11.7	11.7	11.7	11.7	10.5	10.5	10.5	10.5	9.4	9.4	9.4	37.5°
152.5°	10.5	10.5	10.5	10.5	9.4	9.4	9.4	9.4	9.4	8.2	8.2	40°
155°	9.4	9.4	9.4	8.2	8.2	8.2	8.2	8.2	8.2	7.0	7.0	42.5°
157.5°	8.2	8.2	8.2	7.0	7.0	7.0	7.0	7.0	7.0	7.0	5.8	45°
160°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	4.7	4.7	47.5°
162.5°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	50°
165°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	52.5°
167.5°	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5	3.5	3.5	2.3	55°
170°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	57.5°
172.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	60°
175°	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	62.5°
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	65°
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.5°
												70°
												72.5°
												75°
												77.5°
												80°
												82.5°
												85°
												87.5°
												90°
												92.5°
												95°
												97.5°
												100°
												102.5°
												105°
												107.5°
												110°

NUMBER: P188101
 NUMBER: QDCAST1B (4PANELS 5°TILT)

REPORT NUMBER: P
 CATALOG NUMBER:

DISTRIBUTION (continued):

82.5°	85°	87.5°	90°
775.0	775.0	775.0	775.0
771.5	770.3	771.5	769.2
732.9	731.8	731.8	730.6
683.8	681.5	682.7	680.3
671.0	667.5	668.6	666.3
666.3	661.6	662.8	660.5
667.5	662.8	660.5	659.3
671.0	667.5	666.3	664.0
679.2	675.6	673.3	671.0
685.0	681.5	681.5	676.8
692.0	688.5	688.5	686.2
702.5	699.0	699.0	694.3
723.6	720.1	718.9	714.2
757.5	756.3	755.1	751.6
813.6	815.9	815.9	814.7
898.9	907.1	910.6	911.8
1015.8	1038.0	1052.0	1056.7
1174.8	1209.9	1232.1	1239.1
1398.0	1455.3	1490.4	1502.1
1669.2	1738.2	1786.1	1802.5
1886.7	1946.3	1990.7	2002.4
1872.6	1925.2	1958.0	1968.5
1792.0	1839.9	1869.1	1878.5
1678.6	1723.0	1746.4	1751.1
1546.5	1587.4	1606.1	1607.3
1377.0	1399.2	1407.4	1422.6
1096.5	1121.0	1114.0	1114.0
789.0	794.9	778.5	776.2
447.7	433.7	417.3	424.3
218.6	212.7	212.7	211.6
150.8	152.0	155.5	156.6
130.9	134.4	137.9	139.1
118.1	121.6	126.2	127.4
98.2	100.5	105.2	106.4
74.8	74.8	77.1	79.5
56.1	54.9	54.9	54.9
39.7	37.4	35.1	33.9
23.4	21.0	21.0	21.0
17.5	16.4	15.2	15.2
15.2	11.7	10.5	11.7
12.9	11.7	10.5	10.5
12.9	11.7	11.7	11.7
10.5	9.4	9.4	9.4
9.4	8.2	8.2	8.2
8.2	7.0	7.0	7.0

CANDELA DISTRIBUTION:

	82.5°
112.5°	7.0
115°	5.8
117.5°	5.8
120°	5.8
122.5°	7.0
125°	9.4
127.5°	9.4
130°	11.7
132.5°	14.0
135°	12.9
137.5°	14.0
140°	11.7
142.5°	11.7
145°	10.5
147.5°	9.4
150°	9.4
152.5°	8.2
155°	7.0
157.5°	5.8
160°	4.7
162.5°	4.7
165°	3.5
167.5°	2.3
170°	2.3
172.5°	1.2
175°	1.2
177.5°	1.2
180°	0.0



'188101
QDCAST1B (4PANELS 5°TILT)

TION (continued):

85°	87.5°	90°
5.8	5.8	5.8
5.8	5.8	5.8
5.8	5.8	5.8
5.8	4.7	4.7
5.8	5.8	5.8
8.2	7.0	7.0
10.5	10.5	10.5
12.9	14.0	14.0
14.0	14.0	14.0
12.9	12.9	12.9
12.9	12.9	12.9
11.7	11.7	11.7
10.5	10.5	10.5
10.5	10.5	10.5
9.4	9.4	9.4
9.4	9.4	8.2
8.2	8.2	8.2
7.0	7.0	7.0
5.8	5.8	5.8
4.7	4.7	4.7
4.7	4.7	4.7
3.5	3.5	3.5
2.3	2.3	2.3
2.3	2.3	2.3
1.2	1.2	1.2
1.2	1.2	1.2
1.2	1.2	1.2
0.0	0.0	0.0

(END OF REPORT)