

Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: HALO

Report Number: P670564 (CONVERTED FROM TYPE C PHOTOMETRY)

Luminaire Tested: GFL70FSUNVDBZK-60W-4000K

Issue Date: 4/3/2023

Test Information

Test Method: LM-79-2019
Report Number: P670564 (CONVERTED FROM TYPE C PHOTOMETRY)
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ()
Test Lab: INNOVATION CENTER
Issue Date: 4/3/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: GFL70FSUNVDBZK-60W-4000K
Description: SLIM LED FLOODLIGHT
Light Source:
Ballast/Driver: -

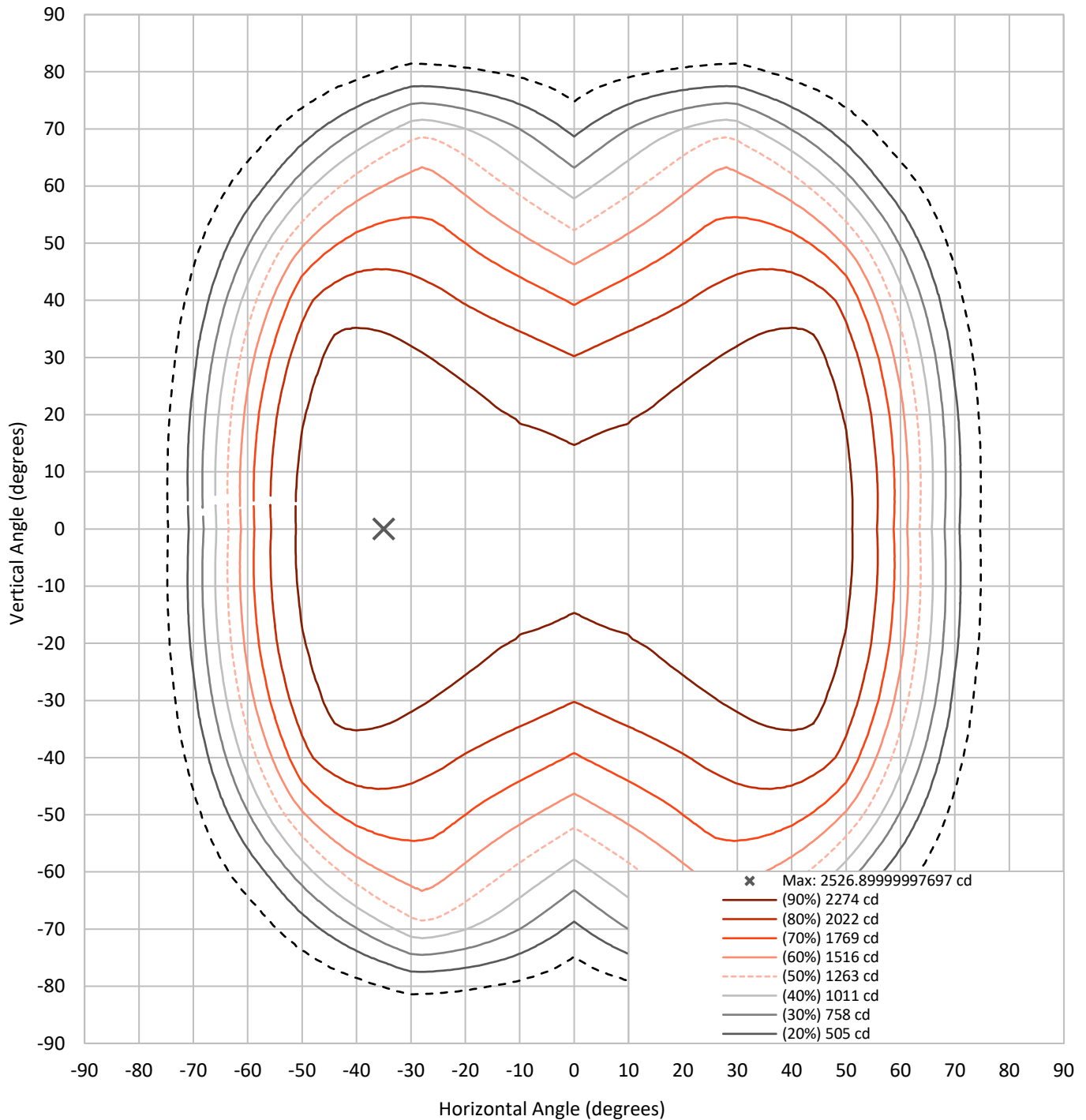
Summary

Lumens per Lamp:	N/A	NEMA Type:	7H x 7V
Luminaire Lumens:	8692 lumens	Max Intensity:	2526.9 candela
Efficiency:	N/A	Max Intensity Angle:	-35°H x 0°V
Efficacy:	157.2 lumens/watt		
Luminous Opening:	Rectangular w/ Sides (W: 0.33' x L: 0.56' x H: 0.18')		
Beam Angle (50%):	127°H x 130.8°V	Field Angle (10%):	149.3°H x 160.3°V
Beam Lumens:	7544.4 lumens	Field Lumens:	8586.2 lumens
Beam Efficiency:	86.8%	Field Efficiency:	98.8%
Input Watts (W):	55.3		
Input Voltage (V):	120		
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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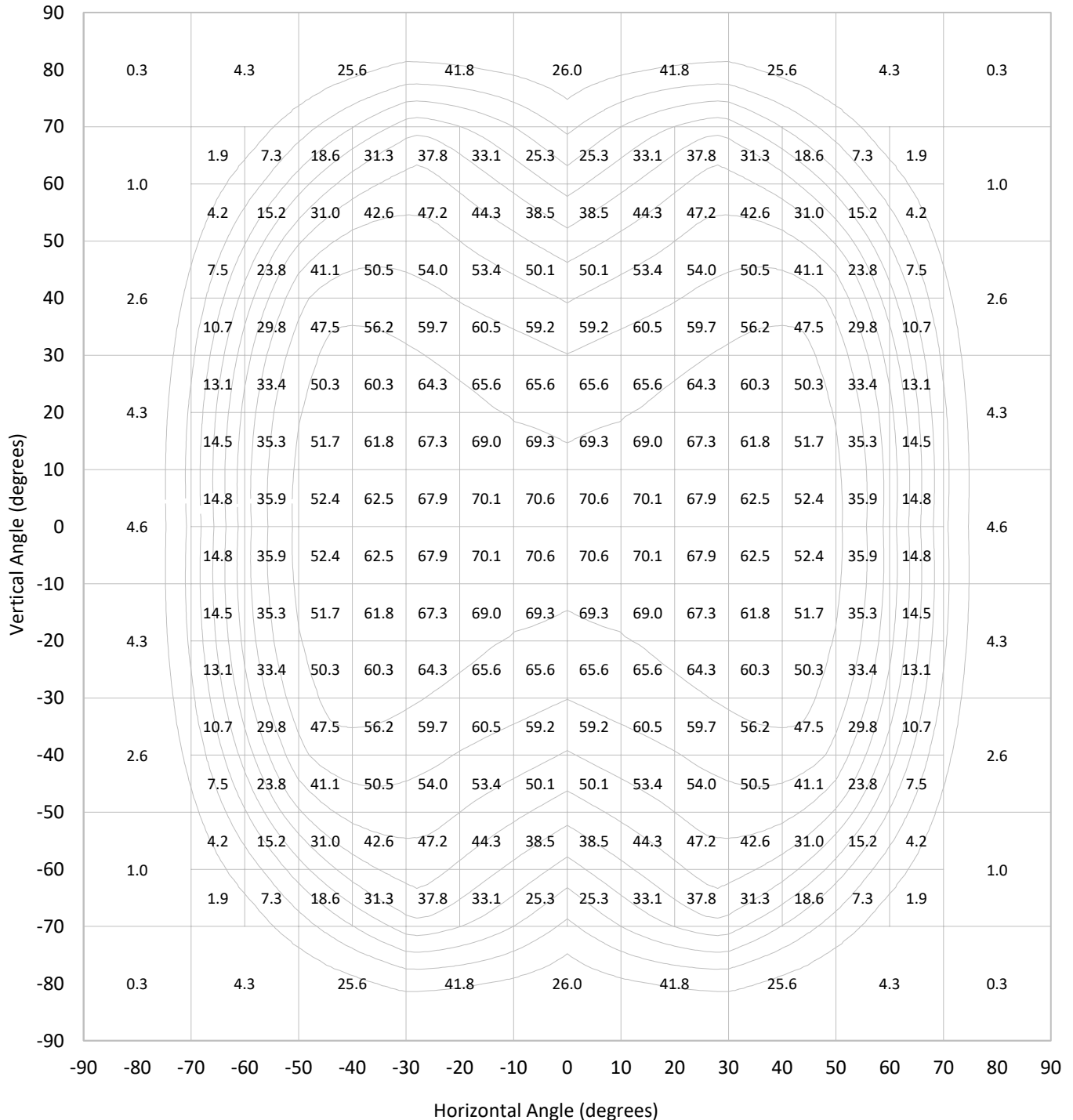
Iso-Candela Plot





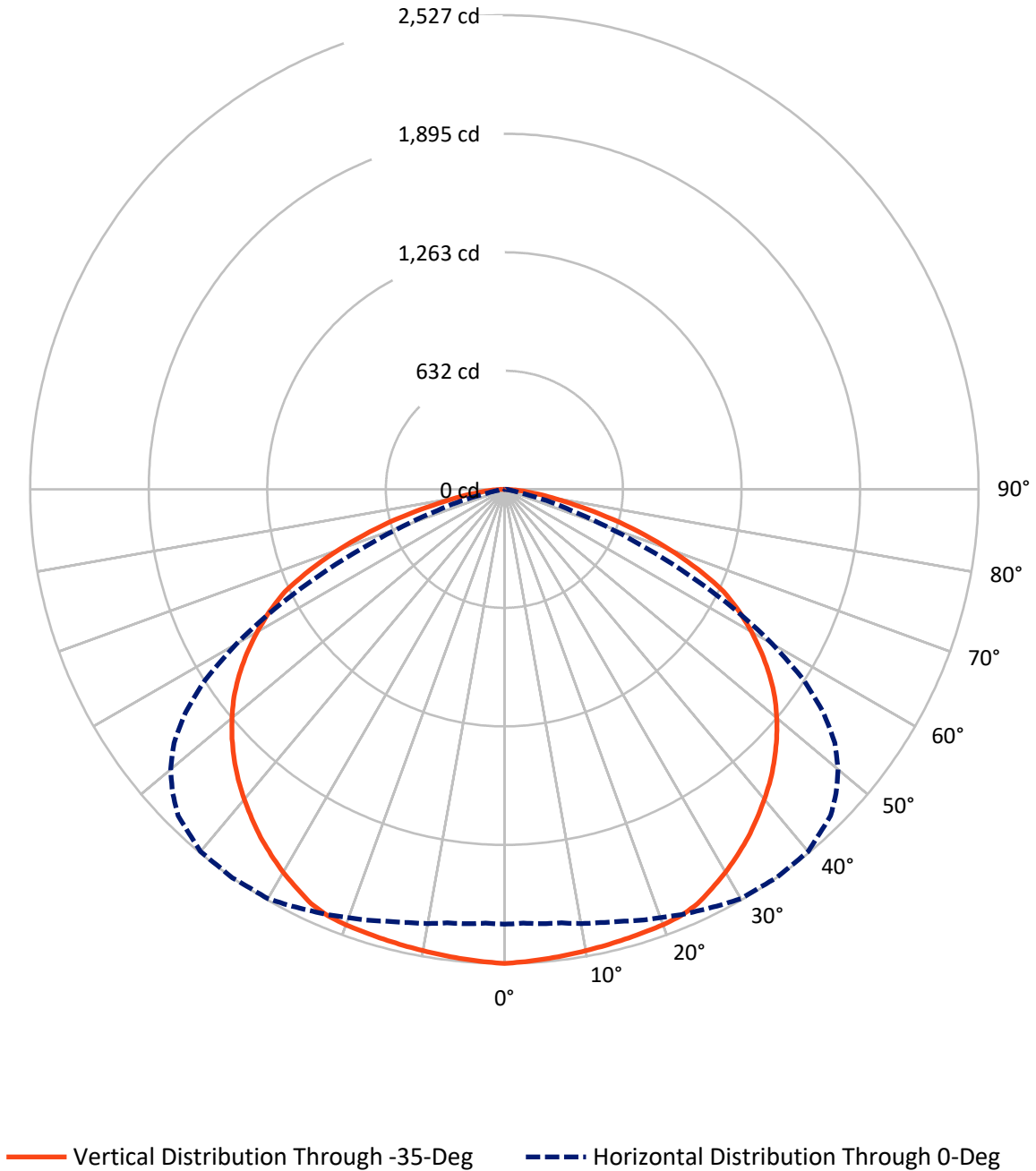
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Lumen Table



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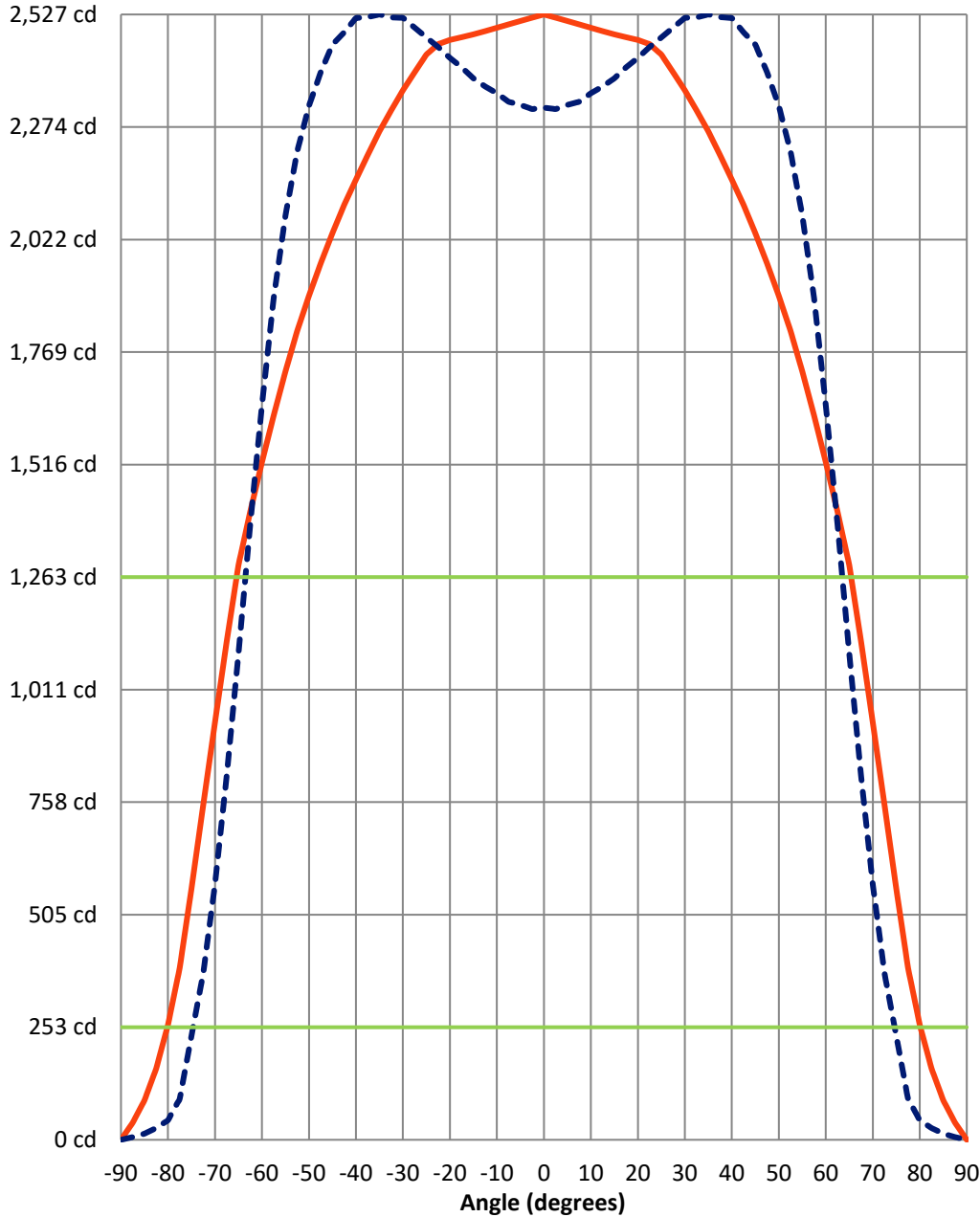
Luminous Intensity Polar Plot





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Luminous Intensity Plot



Beam:
 H Angle: 127°
 V Angle: 130.8°
 Lumens: 7544.4
 Efficiency: 86.8%

Field:
 H Angle: 149.3°
 V Angle: 160.3°
 Lumens: 8586.2
 Efficiency: 98.8%

Spill:
 Lumens: 105.8
 Efficiency: 1.2%

— Vertical Distribution through -35-Deg
 - - - Horizontal Distribution through 0-Deg

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FIELD
BEAM

CANDELA DISTRIBUTION:

	-90°	-87.5°	-85°	-82.5°	-80°	-77.5°	-75°	-72.5°	-70°	-67.5°	-65°
90°	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	0.4	0.9	1.6	2.5	3.6	4.8	6.2	7.8	9.6	11.4
85°	0.0	0.7	1.8	3.2	5.0	7.2	9.6	12.5	15.6	19.1	22.8
82.5°	0.0	1.1	2.7	4.8	7.5	10.7	14.4	18.6	23.2	27.4	31.8
80°	0.0	1.4	3.6	6.4	9.9	14.2	18.9	23.6	28.6	33.8	39.4
77.5°	0.0	1.8	4.4	7.9	12.3	17.3	22.4	27.9	33.8	40.2	47.0
75°	0.0	2.1	5.3	9.4	14.6	19.9	25.8	32.2	39.1	46.9	55.0
72.5°	0.0	2.4	6.1	10.9	16.5	22.5	29.1	36.5	44.9	53.6	62.7
70°	0.0	2.8	6.9	12.3	18.3	24.9	32.3	41.2	50.5	60.4	81.2
67.5°	0.0	3.1	7.6	13.5	20.0	27.3	36.1	45.8	56.1	77.7	101.6
65°	0.0	3.4	8.4	14.6	21.7	29.9	39.8	50.2	70.0	94.3	127.3
62.5°	0.0	3.7	9.1	15.8	23.3	32.7	43.2	59.0	83.1	113.7	166.2
60°	0.0	4.0	9.7	16.8	24.8	35.4	46.6	69.3	95.6	145.6	203.3
57.5°	0.0	4.2	10.3	17.8	26.8	37.9	53.8	78.9	118.4	175.8	250.9
55°	0.0	4.5	10.9	18.7	28.6	40.3	61.1	87.8	142.7	208.3	302.6
52.5°	0.0	4.7	11.5	19.6	30.4	43.1	67.8	105.9	165.5	252.9	352.4
50°	0.0	5.0	12.0	20.4	32.0	48.0	74.0	123.8	191.6	295.7	417.0
47.5°	0.0	5.2	12.5	21.2	33.5	52.6	80.8	140.4	227.8	336.6	479.6
45°	0.0	5.4	12.9	22.3	35.0	56.7	93.7	155.7	262.2	388.2	538.0
42.5°	0.0	5.5	13.3	23.3	36.3	60.4	105.5	178.0	294.7	436.4	605.3
40°	0.0	5.7	13.6	24.1	38.2	63.6	116.1	204.7	328.1	480.8	669.9
37.5°	0.0	5.9	14.0	24.9	40.6	66.5	125.6	229.7	364.3	524.9	729.3
35°	0.0	6.0	14.2	25.6	42.6	72.1	134.0	252.9	397.2	573.9	786.7
32.5°	0.0	6.1	14.5	26.3	44.4	78.5	144.5	274.3	426.7	618.3	844.0
30°	0.0	6.2	14.6	26.8	45.9	84.2	161.3	294.8	452.7	658.0	895.5
27.5°	0.0	6.3	14.8	27.2	47.1	89.0	176.5	315.7	478.9	692.9	941.3
25°	0.0	6.3	14.9	27.6	48.0	92.9	190.1	334.0	507.0	727.4	981.4
22.5°	0.0	6.4	15.0	27.8	48.7	96.1	202.0	349.4	531.0	759.1	1018.0
20°	0.0	6.4	15.0	28.0	49.1	98.4	212.3	362.2	551.0	785.6	1049.1
17.5°	0.0	6.4	15.0	28.1	49.2	100.0	220.9	372.2	567.0	807.0	1074.5
15°	0.0	6.4	14.9	28.1	49.1	100.8	227.7	379.6	579.0	823.3	1094.1
12.5°	0.0	6.4	14.8	28.0	48.7	101.0	232.9	384.5	587.2	834.5	1108.0
10°	0.0	6.4	14.7	27.8	48.1	100.4	236.3	386.9	591.6	840.8	1116.1
7.5°	0.0	6.3	14.5	27.6	47.3	99.2	238.1	386.9	592.3	842.1	1118.5
5°	0.0	6.3	14.3	27.3	46.4	97.4	238.2	384.6	589.5	838.6	1115.1
2.5°	0.0	6.2	14.1	26.9	45.2	95.1	236.6	380.2	583.1	830.4	1106.0
0°	0.0	6.1	13.8	26.4	43.9	92.2	233.3	373.7	573.5	817.6	1091.2
-2.5°	0.0	6.2	14.1	26.9	45.2	95.1	236.6	380.2	583.1	830.4	1106.0
-5°	0.0	6.3	14.3	27.3	46.4	97.4	238.2	384.6	589.5	838.6	1115.1
-7.5°	0.0	6.3	14.5	27.6	47.3	99.2	238.1	386.9	592.3	842.1	1118.5
-10°	0.0	6.4	14.7	27.8	48.1	100.4	236.3	386.9	591.6	840.8	1116.1
-12.5°	0.0	6.4	14.8	28.0	48.7	101.0	232.9	384.5	587.2	834.5	1108.0
-15°	0.0	6.4	14.9	28.1	49.1	100.8	227.7	379.6	579.0	823.3	1094.1
-17.5°	0.0	6.4	15.0	28.1	49.2	100.0	220.9	372.2	567.0	807.0	1074.5
-20°	0.0	6.4	15.0	28.0	49.1	98.4	212.3	362.2	551.0	785.6	1049.1

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CANDELA DISTRIBUTION (continued):

	-90°	-87.5°	-85°	-82.5°	-80°	-77.5°	-75°	-72.5°	-70°	-67.5°	-65°
-22.5°	0.0	6.4	15.0	27.8	48.7	96.1	202.0	349.4	531.0	759.1	1018.0
-25°	0.0	6.3	14.9	27.6	48.0	92.9	190.1	334.0	507.0	727.4	981.4
-27.5°	0.0	6.3	14.8	27.2	47.1	89.0	176.5	315.7	478.9	692.9	941.3
-30°	0.0	6.2	14.6	26.8	45.9	84.2	161.3	294.8	452.7	658.0	895.5
-32.5°	0.0	6.1	14.5	26.3	44.4	78.5	144.5	274.3	426.7	618.3	844.0
-35°	0.0	6.0	14.2	25.6	42.6	72.1	134.0	252.9	397.2	573.9	786.7
-37.5°	0.0	5.9	14.0	24.9	40.6	66.5	125.6	229.7	364.3	524.9	729.3
-40°	0.0	5.7	13.6	24.1	38.2	63.6	116.1	204.7	328.1	480.8	669.9
-42.5°	0.0	5.5	13.3	23.3	36.3	60.4	105.5	178.0	294.7	436.4	605.3
-45°	0.0	5.4	12.9	22.3	35.0	56.7	93.7	155.7	262.2	388.2	538.0
-47.5°	0.0	5.2	12.5	21.2	33.5	52.6	80.8	140.4	227.8	336.6	479.6
-50°	0.0	5.0	12.0	20.4	32.0	48.0	74.0	123.8	191.6	295.7	417.0
-52.5°	0.0	4.7	11.5	19.6	30.4	43.1	67.8	105.9	165.5	252.9	352.4
-55°	0.0	4.5	10.9	18.7	28.6	40.3	61.1	87.8	142.7	208.3	302.6
-57.5°	0.0	4.2	10.3	17.8	26.8	37.9	53.8	78.9	118.4	175.8	250.9
-60°	0.0	4.0	9.7	16.8	24.8	35.4	46.6	69.3	95.6	145.6	203.3
-62.5°	0.0	3.7	9.1	15.8	23.3	32.7	43.2	59.0	83.1	113.7	166.2
-65°	0.0	3.4	8.4	14.6	21.7	29.9	39.8	50.2	70.0	94.3	127.3
-67.5°	0.0	3.1	7.6	13.5	20.0	27.3	36.1	45.8	56.1	77.7	101.6
-70°	0.0	2.8	6.9	12.3	18.3	24.9	32.3	41.2	50.5	60.4	81.2
-72.5°	0.0	2.4	6.1	10.9	16.5	22.5	29.1	36.5	44.9	53.6	62.7
-75°	0.0	2.1	5.3	9.4	14.6	19.9	25.8	32.2	39.1	46.9	55.0
-77.5°	0.0	1.8	4.4	7.9	12.3	17.3	22.4	27.9	33.8	40.2	47.0
-80°	0.0	1.4	3.6	6.4	9.9	14.2	18.9	23.6	28.6	33.8	39.4
-82.5°	0.0	1.1	2.7	4.8	7.5	10.7	14.4	18.6	23.2	27.4	31.8
-85°	0.0	0.7	1.8	3.2	5.0	7.2	9.6	12.5	15.6	19.1	22.8
-87.5°	0.0	0.4	0.9	1.6	2.5	3.6	4.8	6.2	7.8	9.6	11.4
-90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P670564 (CONVERTED FROM TYPE C PHOTOMETRY)
 CATALOG NUMBER: GFLL70FSUNVDBZK-60W-4000K

CANDELA DISTRIBUTION (continued):

	-62.5°	-60°	-57.5°	-55°	-52.5°	-50°	-47.5°	-45°	-42.5°	-40°	-37.5°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	13.4	15.6	17.6	19.7	21.9	24.1	26.4	28.8	31.2	33.5	36.0
85°	26.8	31.1	34.6	38.7	43.3	48.4	54.1	60.3	66.8	73.8	81.0
82.5°	36.5	41.4	47.8	55.3	63.7	72.8	83.2	96.3	110.6	126.1	142.7
80°	45.3	51.5	61.2	73.9	88.7	105.8	124.8	145.7	168.4	195.3	226.2
77.5°	54.3	61.8	75.5	93.8	116.1	147.3	181.1	217.1	255.2	295.2	336.9
75°	63.3	71.9	96.8	129.9	166.4	206.1	250.7	309.0	369.7	432.7	497.5
72.5°	79.3	100.3	130.2	170.4	228.4	291.9	359.1	429.6	506.0	586.5	668.4
70°	104.0	128.7	175.8	240.9	310.8	387.5	473.1	561.6	652.5	747.1	843.4
67.5°	131.8	180.2	235.4	312.0	401.3	494.5	591.3	702.2	810.9	916.8	1020.1
65°	178.4	233.2	299.9	394.3	493.4	614.8	736.1	854.9	974.5	1088.5	1196.4
62.5°	223.0	297.3	374.6	483.5	617.6	749.3	885.3	1017.3	1142.4	1245.8	1334.4
60°	280.7	364.0	466.2	599.2	744.5	896.7	1041.6	1171.6	1284.7	1382.5	1459.1
57.5°	339.9	445.9	574.3	719.5	886.0	1044.8	1189.8	1317.9	1422.9	1510.2	1578.9
55°	406.4	539.0	685.7	852.1	1027.5	1192.5	1337.1	1457.4	1559.2	1631.3	1688.2
52.5°	485.6	631.5	804.6	986.1	1173.5	1338.7	1479.2	1593.3	1680.1	1746.1	1787.1
50°	560.3	734.2	919.7	1120.9	1317.3	1481.6	1614.1	1719.1	1793.4	1846.2	1878.7
47.5°	643.6	831.3	1037.4	1247.6	1452.3	1615.6	1742.0	1830.3	1897.8	1936.6	1962.8
45°	726.2	930.2	1148.6	1364.0	1570.0	1742.7	1852.2	1936.7	1986.8	2021.3	2033.4
42.5°	803.3	1025.7	1250.9	1474.3	1672.1	1846.0	1958.1	2024.9	2071.4	2092.8	2101.1
40°	883.3	1114.8	1347.0	1565.4	1764.0	1925.1	2047.3	2111.2	2143.2	2159.8	2165.6
37.5°	958.5	1197.2	1434.6	1652.3	1836.1	1991.9	2119.8	2182.0	2210.3	2224.3	2220.7
35°	1027.6	1273.8	1510.2	1724.8	1906.1	2050.1	2162.2	2247.5	2273.5	2279.0	2275.1
32.5°	1091.3	1344.2	1581.1	1786.3	1959.9	2101.5	2203.5	2279.5	2329.4	2333.3	2326.8
30°	1149.7	1404.3	1643.3	1844.9	2011.1	2139.1	2236.2	2309.7	2359.7	2383.0	2373.7
27.5°	1202.3	1459.0	1692.4	1891.8	2057.1	2176.4	2266.2	2331.7	2379.1	2413.2	2418.3
25°	1248.8	1508.6	1737.9	1933.2	2088.7	2205.3	2293.3	2354.1	2397.3	2426.5	2442.7
22.5°	1288.5	1552.5	1779.4	1972.1	2119.0	2230.6	2312.6	2371.1	2413.2	2440.9	2451.9
20°	1322.2	1584.0	1812.3	2005.5	2147.6	2255.0	2331.4	2387.0	2426.5	2449.5	2461.7
17.5°	1350.4	1611.0	1838.4	2026.5	2167.4	2273.9	2348.6	2402.4	2440.3	2458.3	2472.3
15°	1372.9	1633.2	1860.7	2044.8	2183.8	2287.2	2360.4	2413.9	2450.5	2467.5	2483.5
12.5°	1389.7	1650.3	1878.7	2060.1	2197.9	2298.9	2371.1	2424.5	2458.0	2477.1	2489.5
10°	1400.4	1661.9	1892.0	2071.8	2209.3	2308.7	2380.4	2434.3	2465.1	2486.7	2495.8
7.5°	1405.1	1668.0	1900.2	2079.5	2217.5	2316.2	2388.0	2443.2	2471.7	2496.0	2502.0
5°	1403.5	1668.0	1902.8	2082.9	2222.1	2321.1	2393.5	2450.5	2477.7	2504.6	2508.4
2.5°	1395.4	1661.8	1899.6	2081.5	2222.8	2322.9	2396.6	2456.0	2482.8	2512.4	2514.7
0°	1380.9	1649.1	1890.1	2074.9	2219.1	2321.4	2397.1	2459.2	2486.8	2518.8	2521.0
-2.5°	1395.4	1661.8	1899.6	2081.5	2222.8	2322.9	2396.6	2456.0	2482.8	2512.4	2514.7
-5°	1403.5	1668.0	1902.8	2082.9	2222.1	2321.1	2393.5	2450.5	2477.7	2504.6	2508.4
-7.5°	1405.1	1668.0	1900.2	2079.5	2217.5	2316.2	2388.0	2443.2	2471.7	2496.0	2502.0
-10°	1400.4	1661.9	1892.0	2071.8	2209.3	2308.7	2380.4	2434.3	2465.1	2486.7	2495.8
-12.5°	1389.7	1650.3	1878.7	2060.1	2197.9	2298.9	2371.1	2424.5	2458.0	2477.1	2489.5
-15°	1372.9	1633.2	1860.7	2044.8	2183.8	2287.2	2360.4	2413.9	2450.5	2467.5	2483.5
-17.5°	1350.4	1611.0	1838.4	2026.5	2167.4	2273.9	2348.6	2402.4	2440.3	2458.3	2472.3
-20°	1322.2	1584.0	1812.3	2005.5	2147.6	2255.0	2331.4	2387.0	2426.5	2449.5	2461.7



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 CATALOG NUMBER: GFLL70FSUNVDBZK-60W-4000K

CANDELA DISTRIBUTION (continued):

	-62.5°	-60°	-57.5°	-55°	-52.5°	-50°	-47.5°	-45°	-42.5°	-40°	-37.5°
-22.5°	1288.5	1552.5	1779.4	1972.1	2119.0	2230.6	2312.6	2371.1	2413.2	2440.9	2451.9
-25°	1248.8	1508.6	1737.9	1933.2	2088.7	2205.3	2293.3	2354.1	2397.3	2426.5	2442.7
-27.5°	1202.3	1459.0	1692.4	1891.8	2057.1	2176.4	2266.2	2331.7	2379.1	2413.2	2418.3
-30°	1149.7	1404.3	1643.3	1844.9	2011.1	2139.1	2236.2	2309.7	2359.7	2383.0	2373.7
-32.5°	1091.3	1344.2	1581.1	1786.3	1959.9	2101.5	2203.5	2279.5	2329.4	2333.3	2326.8
-35°	1027.6	1273.8	1510.2	1724.8	1906.1	2050.1	2162.2	2247.5	2273.5	2279.0	2275.1
-37.5°	958.5	1197.2	1434.6	1652.3	1836.1	1991.9	2119.8	2182.0	2210.3	2224.3	2220.7
-40°	883.3	1114.8	1347.0	1565.4	1764.0	1925.1	2047.3	2111.2	2143.2	2159.8	2165.6
-42.5°	803.3	1025.7	1250.9	1474.3	1672.1	1846.0	1958.1	2024.9	2071.4	2092.8	2101.1
-45°	726.2	930.2	1148.6	1364.0	1570.0	1742.7	1852.2	1936.7	1986.8	2021.3	2033.4
-47.5°	643.6	831.3	1037.4	1247.6	1452.3	1615.6	1742.0	1830.3	1897.8	1936.6	1962.8
-50°	560.3	734.2	919.7	1120.9	1317.3	1481.6	1614.1	1719.1	1793.4	1846.2	1878.7
-52.5°	485.6	631.5	804.6	986.1	1173.5	1338.7	1479.2	1593.3	1680.1	1746.1	1787.1
-55°	406.4	539.0	685.7	852.1	1027.5	1192.5	1337.1	1457.4	1559.2	1631.3	1688.2
-57.5°	339.9	445.9	574.3	719.5	886.0	1044.8	1189.8	1317.9	1422.9	1510.2	1578.9
-60°	280.7	364.0	466.2	599.2	744.5	896.7	1041.6	1171.6	1284.7	1382.5	1459.1
-62.5°	223.0	297.3	374.6	483.5	617.6	749.3	885.3	1017.3	1142.4	1245.8	1334.4
-65°	178.4	233.2	299.9	394.3	493.4	614.8	736.1	854.9	974.5	1088.5	1196.4
-67.5°	131.8	180.2	235.4	312.0	401.3	494.5	591.3	702.2	810.9	916.8	1020.1
-70°	104.0	128.7	175.8	240.9	310.8	387.5	473.1	561.6	652.5	747.1	843.4
-72.5°	79.3	100.3	130.2	170.4	228.4	291.9	359.1	429.6	506.0	586.5	668.4
-75°	63.3	71.9	96.8	129.9	166.4	206.1	250.7	309.0	369.7	432.7	497.5
-77.5°	54.3	61.8	75.5	93.8	116.1	147.3	181.1	217.1	255.2	295.2	336.9
-80°	45.3	51.5	61.2	73.9	88.7	105.8	124.8	145.7	168.4	195.3	226.2
-82.5°	36.5	41.4	47.8	55.3	63.7	72.8	83.2	96.3	110.6	126.1	142.7
-85°	26.8	31.1	34.6	38.7	43.3	48.4	54.1	60.3	66.8	73.8	81.0
-87.5°	13.4	15.6	17.6	19.7	21.9	24.1	26.4	28.8	31.2	33.5	36.0
-90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P670564 (CONVERTED FROM TYPE C PHOTOMETRY)
 CATALOG NUMBER: GFLL70FSUNVDBZK-60W-4000K

CANDELA DISTRIBUTION (continued):

	-35°	-32.5°	-30°	-27.5°	-25°	-22.5°	-20°	-17.5°	-15°	-12.5°	-10°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	38.5	41.0	43.5	42.6	41.5	40.4	39.0	37.6	35.9	34.3	32.4
85°	88.6	96.4	104.5	102.3	99.1	95.3	91.1	86.3	81.1	75.5	69.6
82.5°	160.2	178.4	197.4	194.8	188.7	181.0	172.0	161.6	150.2	137.9	124.6
80°	258.1	290.9	324.5	323.7	313.9	301.3	286.2	268.9	249.4	228.1	205.1
77.5°	386.2	439.5	493.4	500.4	488.2	471.1	449.5	423.7	394.3	361.5	325.8
75°	563.9	632.1	702.6	717.1	697.3	671.4	639.8	603.1	561.7	516.1	466.8
72.5°	751.4	835.2	918.6	942.0	910.9	873.5	830.3	781.6	728.1	670.0	608.0
70°	937.0	1027.8	1115.8	1153.7	1113.5	1067.3	1015.4	958.1	895.8	829.0	758.0
67.5°	1118.9	1212.3	1300.1	1354.8	1298.8	1234.1	1167.5	1099.0	1028.5	955.9	881.3
65°	1290.1	1362.1	1423.7	1470.4	1409.7	1343.6	1276.1	1207.2	1136.7	1064.5	990.6
62.5°	1410.2	1470.1	1516.2	1551.5	1503.4	1439.0	1372.8	1305.6	1237.2	1167.5	1096.3
60°	1521.4	1570.1	1601.3	1621.6	1588.3	1526.6	1463.1	1399.0	1333.9	1267.6	1199.8
57.5°	1626.5	1661.0	1681.9	1689.8	1667.9	1609.0	1548.5	1487.2	1425.6	1363.2	1299.8
55°	1725.3	1746.6	1757.8	1755.6	1739.3	1682.4	1625.9	1569.0	1512.1	1454.7	1396.2
52.5°	1816.1	1825.9	1826.0	1816.8	1798.8	1750.9	1699.0	1647.2	1595.2	1542.7	1489.2
50°	1895.0	1898.9	1890.4	1875.5	1854.1	1816.7	1769.5	1721.9	1673.8	1625.6	1576.8
47.5°	1967.9	1964.9	1952.5	1934.3	1910.3	1877.0	1832.5	1789.6	1748.1	1706.0	1662.9
45°	2035.8	2027.6	2012.8	1989.2	1961.8	1933.0	1896.5	1859.8	1820.9	1782.1	1742.9
42.5°	2099.3	2086.2	2066.7	2043.9	2018.7	1988.9	1953.6	1918.6	1885.2	1852.0	1817.6
40°	2155.9	2141.3	2122.2	2099.2	2069.3	2037.5	2006.5	1977.6	1948.7	1919.0	1888.3
37.5°	2211.0	2195.9	2173.7	2146.8	2118.7	2090.2	2060.4	2033.4	2007.9	1980.9	1953.4
35°	2264.3	2244.6	2220.8	2194.7	2168.2	2140.7	2112.0	2083.5	2060.4	2037.1	2013.3
32.5°	2311.4	2290.5	2266.0	2241.1	2215.8	2187.3	2158.8	2129.7	2108.7	2088.5	2067.2
30°	2356.6	2333.3	2309.7	2285.5	2257.8	2230.7	2203.7	2175.6	2151.9	2134.3	2116.6
27.5°	2397.1	2374.7	2351.8	2324.3	2298.2	2272.6	2245.0	2218.2	2192.2	2177.7	2161.6
25°	2436.8	2415.3	2388.2	2362.3	2337.1	2309.5	2282.9	2257.8	2232.1	2212.2	2198.5
22.5°	2460.2	2450.6	2424.1	2399.6	2371.0	2343.3	2317.4	2292.5	2266.5	2241.7	2230.5
20°	2469.7	2467.1	2459.9	2431.4	2402.1	2374.2	2349.5	2321.2	2295.7	2276.5	2262.4
17.5°	2475.8	2474.6	2471.3	2461.6	2430.3	2404.7	2374.0	2345.9	2326.9	2304.2	2282.3
15°	2482.2	2482.6	2475.6	2464.7	2453.6	2429.4	2394.1	2373.5	2347.9	2326.0	2310.9
12.5°	2489.4	2489.0	2480.3	2469.6	2458.6	2436.0	2419.7	2392.6	2366.1	2348.3	2329.3
10°	2497.0	2494.2	2485.9	2475.0	2458.6	2436.8	2424.7	2404.2	2384.4	2362.3	2343.7
7.5°	2504.6	2500.0	2492.8	2479.9	2459.3	2440.6	2422.7	2403.9	2389.4	2374.2	2354.6
5°	2512.2	2506.3	2500.9	2484.9	2462.3	2444.3	2422.6	2404.1	2385.9	2370.1	2356.7
2.5°	2519.7	2513.1	2509.8	2490.5	2467.7	2448.3	2424.7	2405.3	2383.4	2366.4	2351.7
0°	2526.9	2520.3	2519.2	2497.3	2475.3	2453.8	2429.4	2408.2	2383.5	2365.2	2349.9
-2.5°	2519.7	2513.1	2509.8	2490.5	2467.7	2448.3	2424.7	2405.3	2383.4	2366.4	2351.7
-5°	2512.2	2506.3	2500.9	2484.9	2462.3	2444.3	2422.6	2404.1	2385.9	2370.1	2356.7
-7.5°	2504.6	2500.0	2492.8	2479.9	2459.3	2440.6	2422.7	2403.9	2389.4	2374.2	2354.6
-10°	2497.0	2494.2	2485.9	2475.0	2458.6	2436.8	2424.7	2404.2	2384.4	2362.3	2343.7
-12.5°	2489.4	2489.0	2480.3	2469.6	2458.6	2436.0	2419.7	2392.6	2366.1	2348.3	2329.3
-15°	2482.2	2482.6	2475.6	2464.7	2453.6	2429.4	2394.1	2373.5	2347.9	2326.0	2310.9
-17.5°	2475.8	2474.6	2471.3	2461.6	2430.3	2404.7	2374.0	2345.9	2326.9	2304.2	2282.3
-20°	2469.7	2467.1	2459.9	2431.4	2402.1	2374.2	2349.5	2321.2	2295.7	2276.5	2262.4



REPORT NUMBER: P670564 (CONVERTED FROM TYPE C PHOTOMETRY)
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CANDELA DISTRIBUTION (continued):

	-35°	-32.5°	-30°	-27.5°	-25°	-22.5°	-20°	-17.5°	-15°	-12.5°	-10°
-22.5°	2460.2	2450.6	2424.1	2399.6	2371.0	2343.3	2317.4	2292.5	2266.5	2241.7	2230.5
-25°	2436.8	2415.3	2388.2	2362.3	2337.1	2309.5	2282.9	2257.8	2232.1	2212.2	2198.5
-27.5°	2397.1	2374.7	2351.8	2324.3	2298.2	2272.6	2245.0	2218.2	2192.2	2177.7	2161.6
-30°	2356.6	2333.3	2309.7	2285.5	2257.8	2230.7	2203.7	2175.6	2151.9	2134.3	2116.6
-32.5°	2311.4	2290.5	2266.0	2241.1	2215.8	2187.3	2158.8	2129.7	2108.7	2088.5	2067.2
-35°	2264.3	2244.6	2220.8	2194.7	2168.2	2140.7	2112.0	2083.5	2060.4	2037.1	2013.3
-37.5°	2211.0	2195.9	2173.7	2146.8	2118.7	2090.2	2060.4	2033.4	2007.9	1980.9	1953.4
-40°	2155.9	2141.3	2122.2	2099.2	2069.3	2037.5	2006.5	1977.6	1948.7	1919.0	1888.3
-42.5°	2099.3	2086.2	2066.7	2043.9	2018.7	1988.9	1953.6	1918.6	1885.2	1852.0	1817.6
-45°	2035.8	2027.6	2012.8	1989.2	1961.8	1933.0	1896.5	1859.8	1820.9	1782.1	1742.9
-47.5°	1967.9	1964.9	1952.5	1934.3	1910.3	1877.0	1832.5	1789.6	1748.1	1706.0	1662.9
-50°	1895.0	1898.9	1890.4	1875.5	1854.1	1816.7	1769.5	1721.9	1673.8	1625.6	1576.8
-52.5°	1816.1	1825.9	1826.0	1816.8	1798.8	1750.9	1699.0	1647.2	1595.2	1542.7	1489.2
-55°	1725.3	1746.6	1757.8	1755.6	1739.3	1682.4	1625.9	1569.0	1512.1	1454.7	1396.2
-57.5°	1626.5	1661.0	1681.9	1689.8	1667.9	1609.0	1548.5	1487.2	1425.6	1363.2	1299.8
-60°	1521.4	1570.1	1601.3	1621.6	1588.3	1526.6	1463.1	1399.0	1333.9	1267.6	1199.8
-62.5°	1410.2	1470.1	1516.2	1551.5	1503.4	1439.0	1372.8	1305.6	1237.2	1167.5	1096.3
-65°	1290.1	1362.1	1423.7	1470.4	1409.7	1343.6	1276.1	1207.2	1136.7	1064.5	990.6
-67.5°	1118.9	1212.3	1300.1	1354.8	1298.8	1234.1	1167.5	1099.0	1028.5	955.9	881.3
-70°	937.0	1027.8	1115.8	1153.7	1113.5	1067.3	1015.4	958.1	895.8	829.0	758.0
-72.5°	751.4	835.2	918.6	942.0	910.9	873.5	830.3	781.6	728.1	670.0	608.0
-75°	563.9	632.1	702.6	717.1	697.3	671.4	639.8	603.1	561.7	516.1	466.8
-77.5°	386.2	439.5	493.4	500.4	488.2	471.1	449.5	423.7	394.3	361.5	325.8
-80°	258.1	290.9	324.5	323.7	313.9	301.3	286.2	268.9	249.4	228.1	205.1
-82.5°	160.2	178.4	197.4	194.8	188.7	181.0	172.0	161.6	150.2	137.9	124.6
-85°	88.6	96.4	104.5	102.3	99.1	95.3	91.1	86.3	81.1	75.5	69.6
-87.5°	38.5	41.0	43.5	42.6	41.5	40.4	39.0	37.6	35.9	34.3	32.4
-90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P670564 (CONVERTED FROM TYPE C PHOTOMETRY)
 CATALOG NUMBER: GFLL70FSUNVDBZK-60W-4000K

CANDELA DISTRIBUTION (continued):

	-7.5°	-5°	-2.5°	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	30.4	28.5	26.4	24.3	26.4	28.5	30.4	32.4	34.3	35.9	37.6
85°	63.4	57.0	50.5	43.7	50.5	57.0	63.4	69.6	75.5	81.1	86.3
82.5°	110.7	96.1	81.1	65.9	81.1	96.1	110.7	124.6	137.9	150.2	161.6
80°	180.9	155.5	129.4	102.7	129.4	155.5	180.9	205.1	228.1	249.4	268.9
77.5°	287.7	247.6	206.0	163.4	206.0	247.6	287.7	325.8	361.5	394.3	423.7
75°	414.3	359.2	302.1	243.4	302.1	359.2	414.3	466.8	516.1	561.7	603.1
72.5°	542.6	474.2	403.6	331.1	403.6	474.2	542.6	608.0	670.0	728.1	781.6
70°	683.3	605.5	524.9	442.0	524.9	605.5	683.3	758.0	829.0	895.8	958.1
67.5°	804.6	725.8	644.8	561.7	644.8	725.8	804.6	881.3	955.9	1028.5	1099.0
65°	914.7	836.8	756.8	674.5	756.8	836.8	914.7	990.6	1064.5	1136.7	1207.2
62.5°	1023.1	948.0	870.7	790.9	870.7	948.0	1023.1	1096.3	1167.5	1237.2	1305.6
60°	1130.2	1058.5	984.4	907.8	984.4	1058.5	1130.2	1199.8	1267.6	1333.9	1399.0
57.5°	1234.7	1167.7	1098.3	1026.0	1098.3	1167.7	1234.7	1299.8	1363.2	1425.6	1487.2
55°	1336.1	1274.1	1209.6	1141.9	1209.6	1274.1	1336.1	1396.2	1454.7	1512.1	1569.0
52.5°	1434.1	1376.8	1316.8	1253.7	1316.8	1376.8	1434.1	1489.2	1542.7	1595.2	1647.2
50°	1526.6	1474.5	1419.8	1361.8	1419.8	1474.5	1526.6	1576.8	1625.6	1673.8	1721.9
47.5°	1618.0	1570.8	1520.6	1466.9	1520.6	1570.8	1618.0	1662.9	1706.0	1748.1	1789.6
45°	1702.6	1660.4	1615.5	1567.1	1615.5	1660.4	1702.6	1742.9	1782.1	1820.9	1859.8
42.5°	1781.7	1743.4	1702.3	1657.4	1702.3	1743.4	1781.7	1817.6	1852.0	1885.2	1918.6
40°	1856.2	1821.7	1784.2	1743.1	1784.2	1821.7	1856.2	1888.3	1919.0	1948.7	1977.6
37.5°	1924.7	1893.8	1860.2	1822.8	1860.2	1893.8	1924.7	1953.4	1980.9	2007.9	2033.4
35°	1988.4	1961.5	1931.8	1898.3	1931.8	1961.5	1988.4	2013.3	2037.1	2060.4	2083.5
32.5°	2044.7	2020.2	1993.0	1962.2	1993.0	2020.2	2044.7	2067.2	2088.5	2108.7	2129.7
30°	2098.0	2077.7	2054.6	2027.6	2054.6	2077.7	2098.0	2116.6	2134.3	2151.9	2175.6
27.5°	2145.6	2128.6	2109.2	2086.3	2109.2	2128.6	2145.6	2161.6	2177.7	2192.2	2218.2
25°	2183.7	2167.5	2149.1	2127.6	2149.1	2167.5	2183.7	2198.5	2212.2	2232.1	2257.8
22.5°	2220.0	2208.4	2194.2	2176.3	2194.2	2208.4	2220.0	2230.5	2241.7	2266.5	2292.5
20°	2252.1	2243.3	2234.2	2222.1	2234.2	2243.3	2252.1	2262.4	2276.5	2295.7	2321.2
17.5°	2277.0	2270.2	2260.5	2247.4	2260.5	2270.2	2277.0	2282.3	2304.2	2326.9	2345.9
15°	2298.3	2289.9	2281.3	2270.6	2281.3	2289.9	2298.3	2310.9	2326.0	2347.9	2373.5
12.5°	2313.5	2308.1	2303.8	2296.9	2303.8	2308.1	2313.5	2329.3	2348.3	2366.1	2392.6
10°	2330.8	2317.1	2309.2	2301.2	2309.2	2317.1	2330.8	2343.7	2362.3	2384.4	2404.2
7.5°	2336.4	2323.9	2321.1	2321.0	2321.1	2323.9	2336.4	2354.6	2374.2	2389.4	2403.9
5°	2343.0	2331.3	2327.2	2321.9	2327.2	2331.3	2343.0	2356.7	2370.1	2385.9	2404.1
2.5°	2338.6	2329.0	2323.9	2326.8	2323.9	2329.0	2338.6	2351.7	2366.4	2383.4	2405.3
0°	2330.9	2323.8	2314.5	2317.6	2314.5	2323.8	2330.9	2349.9	2365.2	2383.5	2408.2
-2.5°	2338.6	2329.0	2323.9	2326.8	2323.9	2329.0	2338.6	2351.7	2366.4	2383.4	2405.3
-5°	2343.0	2331.3	2327.2	2321.9	2327.2	2331.3	2343.0	2356.7	2370.1	2385.9	2404.1
-7.5°	2336.4	2323.9	2321.1	2321.0	2321.1	2323.9	2336.4	2354.6	2374.2	2389.4	2403.9
-10°	2330.8	2317.1	2309.2	2301.2	2309.2	2317.1	2330.8	2343.7	2362.3	2384.4	2404.2
-12.5°	2313.5	2308.1	2303.8	2296.9	2303.8	2308.1	2313.5	2329.3	2348.3	2366.1	2392.6
-15°	2298.3	2289.9	2281.3	2270.6	2281.3	2289.9	2298.3	2310.9	2326.0	2347.9	2373.5
-17.5°	2277.0	2270.2	2260.5	2247.4	2260.5	2270.2	2277.0	2282.3	2304.2	2326.9	2345.9
-20°	2252.1	2243.3	2234.2	2222.1	2234.2	2243.3	2252.1	2262.4	2276.5	2295.7	2321.2



REPORT NUMBER: P670564 (CONVERTED FROM TYPE C PHOTOMETRY)
 CATALOG NUMBER: GFLL70FSUNVDBZK-60W-4000K

CANDELA DISTRIBUTION (continued):

	-7.5°	-5°	-2.5°	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°
-22.5°	2220.0	2208.4	2194.2	2176.3	2194.2	2208.4	2220.0	2230.5	2241.7	2266.5	2292.5
-25°	2183.7	2167.5	2149.1	2127.6	2149.1	2167.5	2183.7	2198.5	2212.2	2232.1	2257.8
-27.5°	2145.6	2128.6	2109.2	2086.3	2109.2	2128.6	2145.6	2161.6	2177.7	2192.2	2218.2
-30°	2098.0	2077.7	2054.6	2027.6	2054.6	2077.7	2098.0	2116.6	2134.3	2151.9	2175.6
-32.5°	2044.7	2020.2	1993.0	1962.2	1993.0	2020.2	2044.7	2067.2	2088.5	2108.7	2129.7
-35°	1988.4	1961.5	1931.8	1898.3	1931.8	1961.5	1988.4	2013.3	2037.1	2060.4	2083.5
-37.5°	1924.7	1893.8	1860.2	1822.8	1860.2	1893.8	1924.7	1953.4	1980.9	2007.9	2033.4
-40°	1856.2	1821.7	1784.2	1743.1	1784.2	1821.7	1856.2	1888.3	1919.0	1948.7	1977.6
-42.5°	1781.7	1743.4	1702.3	1657.4	1702.3	1743.4	1781.7	1817.6	1852.0	1885.2	1918.6
-45°	1702.6	1660.4	1615.5	1567.1	1615.5	1660.4	1702.6	1742.9	1782.1	1820.9	1859.8
-47.5°	1618.0	1570.8	1520.6	1466.9	1520.6	1570.8	1618.0	1662.9	1706.0	1748.1	1789.6
-50°	1526.6	1474.5	1419.8	1361.8	1419.8	1474.5	1526.6	1576.8	1625.6	1673.8	1721.9
-52.5°	1434.1	1376.8	1316.8	1253.7	1316.8	1376.8	1434.1	1489.2	1542.7	1595.2	1647.2
-55°	1336.1	1274.1	1209.6	1141.9	1209.6	1274.1	1336.1	1396.2	1454.7	1512.1	1569.0
-57.5°	1234.7	1167.7	1098.3	1026.0	1098.3	1167.7	1234.7	1299.8	1363.2	1425.6	1487.2
-60°	1130.2	1058.5	984.4	907.8	984.4	1058.5	1130.2	1199.8	1267.6	1333.9	1399.0
-62.5°	1023.1	948.0	870.7	790.9	870.7	948.0	1023.1	1096.3	1167.5	1237.2	1305.6
-65°	914.7	836.8	756.8	674.5	756.8	836.8	914.7	990.6	1064.5	1136.7	1207.2
-67.5°	804.6	725.8	644.8	561.7	644.8	725.8	804.6	881.3	955.9	1028.5	1099.0
-70°	683.3	605.5	524.9	442.0	524.9	605.5	683.3	758.0	829.0	895.8	958.1
-72.5°	542.6	474.2	403.6	331.1	403.6	474.2	542.6	608.0	670.0	728.1	781.6
-75°	414.3	359.2	302.1	243.4	302.1	359.2	414.3	466.8	516.1	561.7	603.1
-77.5°	287.7	247.6	206.0	163.4	206.0	247.6	287.7	325.8	361.5	394.3	423.7
-80°	180.9	155.5	129.4	102.7	129.4	155.5	180.9	205.1	228.1	249.4	268.9
-82.5°	110.7	96.1	81.1	65.9	81.1	96.1	110.7	124.6	137.9	150.2	161.6
-85°	63.4	57.0	50.5	43.7	50.5	57.0	63.4	69.6	75.5	81.1	86.3
-87.5°	30.4	28.5	26.4	24.3	26.4	28.5	30.4	32.4	34.3	35.9	37.6
-90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P670564 (CONVERTED FROM TYPE C PHOTOMETRY)
 CATALOG NUMBER: GFLL70FSUNVDBZK-60W-4000K

CANDELA DISTRIBUTION (continued):

	20°	22.5°	25°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	39.0	40.4	41.5	42.6	43.5	41.0	38.5	36.0	33.5	31.2	28.8
85°	91.1	95.3	99.1	102.3	104.5	96.4	88.6	81.0	73.8	66.8	60.3
82.5°	172.0	181.0	188.7	194.8	197.4	178.4	160.2	142.7	126.1	110.6	96.3
80°	286.2	301.3	313.9	323.7	324.5	290.9	258.1	226.2	195.3	168.4	145.7
77.5°	449.5	471.1	488.2	500.4	493.4	439.5	386.2	336.9	295.2	255.2	217.1
75°	639.8	671.4	697.3	717.1	702.6	632.1	563.9	497.5	432.7	369.7	309.0
72.5°	830.3	873.5	910.9	942.0	918.6	835.2	751.4	668.4	586.5	506.0	429.6
70°	1015.4	1067.3	1113.5	1153.7	1115.8	1027.8	937.0	843.4	747.1	652.5	561.6
67.5°	1167.5	1234.1	1298.8	1354.8	1300.1	1212.3	1118.9	1020.1	916.8	810.9	702.2
65°	1276.1	1343.6	1409.7	1470.4	1423.7	1362.1	1290.1	1196.4	1088.5	974.5	854.9
62.5°	1372.8	1439.0	1503.4	1551.5	1516.2	1470.1	1410.2	1334.4	1245.8	1142.4	1017.3
60°	1463.1	1526.6	1588.3	1621.6	1601.3	1570.1	1521.4	1459.1	1382.5	1284.7	1171.6
57.5°	1548.5	1609.0	1667.9	1689.8	1681.9	1661.0	1626.5	1578.9	1510.2	1422.9	1317.9
55°	1625.9	1682.4	1739.3	1755.6	1757.8	1746.6	1725.3	1688.2	1631.3	1559.2	1457.4
52.5°	1699.0	1750.9	1798.8	1816.8	1826.0	1825.9	1816.1	1787.1	1746.1	1680.1	1593.3
50°	1769.5	1816.7	1854.1	1875.5	1890.4	1898.9	1895.0	1878.7	1846.2	1793.4	1719.1
47.5°	1832.5	1877.0	1910.3	1934.3	1952.5	1964.9	1967.9	1962.8	1936.6	1897.8	1830.3
45°	1896.5	1933.0	1961.8	1989.2	2012.8	2027.6	2035.8	2033.4	2021.3	1986.8	1936.7
42.5°	1953.6	1988.9	2018.7	2043.9	2066.7	2086.2	2099.3	2101.1	2092.8	2071.4	2024.9
40°	2006.5	2037.5	2069.3	2099.2	2122.2	2141.3	2155.9	2165.6	2159.8	2143.2	2111.2
37.5°	2060.4	2090.2	2118.7	2146.8	2173.7	2195.9	2211.0	2220.7	2224.3	2210.3	2182.0
35°	2112.0	2140.7	2168.2	2194.7	2220.8	2244.6	2264.3	2275.1	2279.0	2273.5	2247.5
32.5°	2158.8	2187.3	2215.8	2241.1	2266.0	2290.5	2311.4	2326.8	2333.3	2329.4	2279.5
30°	2203.7	2230.7	2257.8	2285.5	2309.7	2333.3	2356.6	2373.7	2383.0	2359.7	2309.7
27.5°	2245.0	2272.6	2298.2	2324.3	2351.8	2374.7	2397.1	2418.3	2413.2	2379.1	2331.7
25°	2282.9	2309.5	2337.1	2362.3	2388.2	2415.3	2436.8	2442.7	2426.5	2397.3	2354.1
22.5°	2317.4	2343.3	2371.0	2399.6	2424.1	2450.6	2460.2	2451.9	2440.9	2413.2	2371.1
20°	2349.5	2374.2	2402.1	2431.4	2459.9	2467.1	2469.7	2461.7	2449.5	2426.5	2387.0
17.5°	2374.0	2404.7	2430.3	2461.6	2471.3	2474.6	2475.8	2472.3	2458.3	2440.3	2402.4
15°	2394.1	2429.4	2453.6	2464.7	2475.6	2482.6	2482.2	2483.5	2467.5	2450.5	2413.9
12.5°	2419.7	2436.0	2458.6	2469.6	2480.3	2489.0	2489.4	2489.5	2477.1	2458.0	2424.5
10°	2424.7	2436.8	2458.6	2475.0	2485.9	2494.2	2497.0	2495.8	2486.7	2465.1	2434.3
7.5°	2422.7	2440.6	2459.3	2479.9	2492.8	2500.0	2504.6	2502.0	2496.0	2471.7	2443.2
5°	2422.6	2444.3	2462.3	2484.9	2500.9	2506.3	2512.2	2508.4	2504.6	2477.7	2450.5
2.5°	2424.7	2448.3	2467.7	2490.5	2509.8	2513.1	2519.7	2514.7	2512.4	2482.8	2456.0
0°	2429.4	2453.8	2475.3	2497.3	2519.2	2520.3	2526.9	2521.0	2518.8	2486.8	2459.2
-2.5°	2424.7	2448.3	2467.7	2490.5	2509.8	2513.1	2519.7	2514.7	2512.4	2482.8	2456.0
-5°	2422.6	2444.3	2462.3	2484.9	2500.9	2506.3	2512.2	2508.4	2504.6	2477.7	2450.5
-7.5°	2422.7	2440.6	2459.3	2479.9	2492.8	2500.0	2504.6	2502.0	2496.0	2471.7	2443.2
-10°	2424.7	2436.8	2458.6	2475.0	2485.9	2494.2	2497.0	2495.8	2486.7	2465.1	2434.3
-12.5°	2419.7	2436.0	2458.6	2469.6	2480.3	2489.0	2489.4	2489.5	2477.1	2458.0	2424.5
-15°	2394.1	2429.4	2453.6	2464.7	2475.6	2482.6	2482.2	2483.5	2467.5	2450.5	2413.9
-17.5°	2374.0	2404.7	2430.3	2461.6	2471.3	2474.6	2475.8	2472.3	2458.3	2440.3	2402.4
-20°	2349.5	2374.2	2402.1	2431.4	2459.9	2467.1	2469.7	2461.7	2449.5	2426.5	2387.0



REPORT NUMBER: P670564 (CONVERTED FROM TYPE C PHOTOMETRY)
 CATALOG NUMBER: GFLL70FSUNVDBZK-60W-4000K

CANDELA DISTRIBUTION (continued):

	20°	22.5°	25°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°
-22.5°	2317.4	2343.3	2371.0	2399.6	2424.1	2450.6	2460.2	2451.9	2440.9	2413.2	2371.1
-25°	2282.9	2309.5	2337.1	2362.3	2388.2	2415.3	2436.8	2442.7	2426.5	2397.3	2354.1
-27.5°	2245.0	2272.6	2298.2	2324.3	2351.8	2374.7	2397.1	2418.3	2413.2	2379.1	2331.7
-30°	2203.7	2230.7	2257.8	2285.5	2309.7	2333.3	2356.6	2373.7	2383.0	2359.7	2309.7
-32.5°	2158.8	2187.3	2215.8	2241.1	2266.0	2290.5	2311.4	2326.8	2333.3	2329.4	2279.5
-35°	2112.0	2140.7	2168.2	2194.7	2220.8	2244.6	2264.3	2275.1	2279.0	2273.5	2247.5
-37.5°	2060.4	2090.2	2118.7	2146.8	2173.7	2195.9	2211.0	2220.7	2224.3	2210.3	2182.0
-40°	2006.5	2037.5	2069.3	2099.2	2122.2	2141.3	2155.9	2165.6	2159.8	2143.2	2111.2
-42.5°	1953.6	1988.9	2018.7	2043.9	2066.7	2086.2	2099.3	2101.1	2092.8	2071.4	2024.9
-45°	1896.5	1933.0	1961.8	1989.2	2012.8	2027.6	2035.8	2033.4	2021.3	1986.8	1936.7
-47.5°	1832.5	1877.0	1910.3	1934.3	1952.5	1964.9	1967.9	1962.8	1936.6	1897.8	1830.3
-50°	1769.5	1816.7	1854.1	1875.5	1890.4	1898.9	1895.0	1878.7	1846.2	1793.4	1719.1
-52.5°	1699.0	1750.9	1798.8	1816.8	1826.0	1825.9	1816.1	1787.1	1746.1	1680.1	1593.3
-55°	1625.9	1682.4	1739.3	1755.6	1757.8	1746.6	1725.3	1688.2	1631.3	1559.2	1457.4
-57.5°	1548.5	1609.0	1667.9	1689.8	1681.9	1661.0	1626.5	1578.9	1510.2	1422.9	1317.9
-60°	1463.1	1526.6	1588.3	1621.6	1601.3	1570.1	1521.4	1459.1	1382.5	1284.7	1171.6
-62.5°	1372.8	1439.0	1503.4	1551.5	1516.2	1470.1	1410.2	1334.4	1245.8	1142.4	1017.3
-65°	1276.1	1343.6	1409.7	1470.4	1423.7	1362.1	1290.1	1196.4	1088.5	974.5	854.9
-67.5°	1167.5	1234.1	1298.8	1354.8	1300.1	1212.3	1118.9	1020.1	916.8	810.9	702.2
-70°	1015.4	1067.3	1113.5	1153.7	1115.8	1027.8	937.0	843.4	747.1	652.5	561.6
-72.5°	830.3	873.5	910.9	942.0	918.6	835.2	751.4	668.4	586.5	506.0	429.6
-75°	639.8	671.4	697.3	717.1	702.6	632.1	563.9	497.5	432.7	369.7	309.0
-77.5°	449.5	471.1	488.2	500.4	493.4	439.5	386.2	336.9	295.2	255.2	217.1
-80°	286.2	301.3	313.9	323.7	324.5	290.9	258.1	226.2	195.3	168.4	145.7
-82.5°	172.0	181.0	188.7	194.8	197.4	178.4	160.2	142.7	126.1	110.6	96.3
-85°	91.1	95.3	99.1	102.3	104.5	96.4	88.6	81.0	73.8	66.8	60.3
-87.5°	39.0	40.4	41.5	42.6	43.5	41.0	38.5	36.0	33.5	31.2	28.8
-90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P670564 (CONVERTED FROM TYPE C PHOTOMETRY)
 CATALOG NUMBER: GFLL70FSUNVDBZK-60W-4000K

CANDELA DISTRIBUTION (continued):

	47.5°	50°	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	26.4	24.1	21.9	19.7	17.6	15.6	13.4	11.4	9.6	7.8	6.2
85°	54.1	48.4	43.3	38.7	34.6	31.1	26.8	22.8	19.1	15.6	12.5
82.5°	83.2	72.8	63.7	55.3	47.8	41.4	36.5	31.8	27.4	23.2	18.6
80°	124.8	105.8	88.7	73.9	61.2	51.5	45.3	39.4	33.8	28.6	23.6
77.5°	181.1	147.3	116.1	93.8	75.5	61.8	54.3	47.0	40.2	33.8	27.9
75°	250.7	206.1	166.4	129.9	96.8	71.9	63.3	55.0	46.9	39.1	32.2
72.5°	359.1	291.9	228.4	170.4	130.2	100.3	79.3	62.7	53.6	44.9	36.5
70°	473.1	387.5	310.8	240.9	175.8	128.7	104.0	81.2	60.4	50.5	41.2
67.5°	591.3	494.5	401.3	312.0	235.4	180.2	131.8	101.6	77.7	56.1	45.8
65°	736.1	614.8	493.4	394.3	299.9	233.2	178.4	127.3	94.3	70.0	50.2
62.5°	885.3	749.3	617.6	483.5	374.6	297.3	223.0	166.2	113.7	83.1	59.0
60°	1041.6	896.7	744.5	599.2	466.2	364.0	280.7	203.3	145.6	95.6	69.3
57.5°	1189.8	1044.8	886.0	719.5	574.3	445.9	339.9	250.9	175.8	118.4	78.9
55°	1337.1	1192.5	1027.5	852.1	685.7	539.0	406.4	302.6	208.3	142.7	87.8
52.5°	1479.2	1338.7	1173.5	986.1	804.6	631.5	485.6	352.4	252.9	165.5	105.9
50°	1614.1	1481.6	1317.3	1120.9	919.7	734.2	560.3	417.0	295.7	191.6	123.8
47.5°	1742.0	1615.6	1452.3	1247.6	1037.4	831.3	643.6	479.6	336.6	227.8	140.4
45°	1852.2	1742.7	1570.0	1364.0	1148.6	930.2	726.2	538.0	388.2	262.2	155.7
42.5°	1958.1	1846.0	1672.1	1474.3	1250.9	1025.7	803.3	605.3	436.4	294.7	178.0
40°	2047.3	1925.1	1764.0	1565.4	1347.0	1114.8	883.3	669.9	480.8	328.1	204.7
37.5°	2119.8	1991.9	1836.1	1652.3	1434.6	1197.2	958.5	729.3	524.9	364.3	229.7
35°	2162.2	2050.1	1906.1	1724.8	1510.2	1273.8	1027.6	786.7	573.9	397.2	252.9
32.5°	2203.5	2101.5	1959.9	1786.3	1581.1	1344.2	1091.3	844.0	618.3	426.7	274.3
30°	2236.2	2139.1	2011.1	1844.9	1643.3	1404.3	1149.7	895.5	658.0	452.7	294.8
27.5°	2266.2	2176.4	2057.1	1891.8	1692.4	1459.0	1202.3	941.3	692.9	478.9	315.7
25°	2293.3	2205.3	2088.7	1933.2	1737.9	1508.6	1248.8	981.4	727.4	507.0	334.0
22.5°	2312.6	2230.6	2119.0	1972.1	1779.4	1552.5	1288.5	1018.0	759.1	531.0	349.4
20°	2331.4	2255.0	2147.6	2005.5	1812.3	1584.0	1322.2	1049.1	785.6	551.0	362.2
17.5°	2348.6	2273.9	2167.4	2026.5	1838.4	1611.0	1350.4	1074.5	807.0	567.0	372.2
15°	2360.4	2287.2	2183.8	2044.8	1860.7	1633.2	1372.9	1094.1	823.3	579.0	379.6
12.5°	2371.1	2298.9	2197.9	2060.1	1878.7	1650.3	1389.7	1108.0	834.5	587.2	384.5
10°	2380.4	2308.7	2209.3	2071.8	1892.0	1661.9	1400.4	1116.1	840.8	591.6	386.9
7.5°	2388.0	2316.2	2217.5	2079.5	1900.2	1668.0	1405.1	1118.5	842.1	592.3	386.9
5°	2393.5	2321.1	2222.1	2082.9	1902.8	1668.0	1403.5	1115.1	838.6	589.5	384.6
2.5°	2396.6	2322.9	2222.8	2081.5	1899.6	1661.8	1395.4	1106.0	830.4	583.1	380.2
0°	2397.1	2321.4	2219.1	2074.9	1890.1	1649.1	1380.9	1091.2	817.6	573.5	373.7
-2.5°	2396.6	2322.9	2222.8	2081.5	1899.6	1661.8	1395.4	1106.0	830.4	583.1	380.2
-5°	2393.5	2321.1	2222.1	2082.9	1902.8	1668.0	1403.5	1115.1	838.6	589.5	384.6
-7.5°	2388.0	2316.2	2217.5	2079.5	1900.2	1668.0	1405.1	1118.5	842.1	592.3	386.9
-10°	2380.4	2308.7	2209.3	2071.8	1892.0	1661.9	1400.4	1116.1	840.8	591.6	386.9
-12.5°	2371.1	2298.9	2197.9	2060.1	1878.7	1650.3	1389.7	1108.0	834.5	587.2	384.5
-15°	2360.4	2287.2	2183.8	2044.8	1860.7	1633.2	1372.9	1094.1	823.3	579.0	379.6
-17.5°	2348.6	2273.9	2167.4	2026.5	1838.4	1611.0	1350.4	1074.5	807.0	567.0	372.2
-20°	2331.4	2255.0	2147.6	2005.5	1812.3	1584.0	1322.2	1049.1	785.6	551.0	362.2



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CANDELA DISTRIBUTION (continued):

	47.5°	50°	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°
-22.5°	2312.6	2230.6	2119.0	1972.1	1779.4	1552.5	1288.5	1018.0	759.1	531.0	349.4
-25°	2293.3	2205.3	2088.7	1933.2	1737.9	1508.6	1248.8	981.4	727.4	507.0	334.0
-27.5°	2266.2	2176.4	2057.1	1891.8	1692.4	1459.0	1202.3	941.3	692.9	478.9	315.7
-30°	2236.2	2139.1	2011.1	1844.9	1643.3	1404.3	1149.7	895.5	658.0	452.7	294.8
-32.5°	2203.5	2101.5	1959.9	1786.3	1581.1	1344.2	1091.3	844.0	618.3	426.7	274.3
-35°	2162.2	2050.1	1906.1	1724.8	1510.2	1273.8	1027.6	786.7	573.9	397.2	252.9
-37.5°	2119.8	1991.9	1836.1	1652.3	1434.6	1197.2	958.5	729.3	524.9	364.3	229.7
-40°	2047.3	1925.1	1764.0	1565.4	1347.0	1114.8	883.3	669.9	480.8	328.1	204.7
-42.5°	1958.1	1846.0	1672.1	1474.3	1250.9	1025.7	803.3	605.3	436.4	294.7	178.0
-45°	1852.2	1742.7	1570.0	1364.0	1148.6	930.2	726.2	538.0	388.2	262.2	155.7
-47.5°	1742.0	1615.6	1452.3	1247.6	1037.4	831.3	643.6	479.6	336.6	227.8	140.4
-50°	1614.1	1481.6	1317.3	1120.9	919.7	734.2	560.3	417.0	295.7	191.6	123.8
-52.5°	1479.2	1338.7	1173.5	986.1	804.6	631.5	485.6	352.4	252.9	165.5	105.9
-55°	1337.1	1192.5	1027.5	852.1	685.7	539.0	406.4	302.6	208.3	142.7	87.8
-57.5°	1189.8	1044.8	886.0	719.5	574.3	445.9	339.9	250.9	175.8	118.4	78.9
-60°	1041.6	896.7	744.5	599.2	466.2	364.0	280.7	203.3	145.6	95.6	69.3
-62.5°	885.3	749.3	617.6	483.5	374.6	297.3	223.0	166.2	113.7	83.1	59.0
-65°	736.1	614.8	493.4	394.3	299.9	233.2	178.4	127.3	94.3	70.0	50.2
-67.5°	591.3	494.5	401.3	312.0	235.4	180.2	131.8	101.6	77.7	56.1	45.8
-70°	473.1	387.5	310.8	240.9	175.8	128.7	104.0	81.2	60.4	50.5	41.2
-72.5°	359.1	291.9	228.4	170.4	130.2	100.3	79.3	62.7	53.6	44.9	36.5
-75°	250.7	206.1	166.4	129.9	96.8	71.9	63.3	55.0	46.9	39.1	32.2
-77.5°	181.1	147.3	116.1	93.8	75.5	61.8	54.3	47.0	40.2	33.8	27.9
-80°	124.8	105.8	88.7	73.9	61.2	51.5	45.3	39.4	33.8	28.6	23.6
-82.5°	83.2	72.8	63.7	55.3	47.8	41.4	36.5	31.8	27.4	23.2	18.6
-85°	54.1	48.4	43.3	38.7	34.6	31.1	26.8	22.8	19.1	15.6	12.5
-87.5°	26.4	24.1	21.9	19.7	17.6	15.6	13.4	11.4	9.6	7.8	6.2
-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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REPORT NUMBER: P670564 (CONVERTED FROM TYPE C PHOTOMETRY)
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CANDELA DISTRIBUTION (continued):

	75°	77.5°	80°	82.5°	85°	87.5°	90°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	4.8	3.6	2.5	1.6	0.9	0.4	0.0
85°	9.6	7.2	5.0	3.2	1.8	0.7	0.0
82.5°	14.4	10.7	7.5	4.8	2.7	1.1	0.0
80°	18.9	14.2	9.9	6.4	3.6	1.4	0.0
77.5°	22.4	17.3	12.3	7.9	4.4	1.8	0.0
75°	25.8	19.9	14.6	9.4	5.3	2.1	0.0
72.5°	29.1	22.5	16.5	10.9	6.1	2.4	0.0
70°	32.3	24.9	18.3	12.3	6.9	2.8	0.0
67.5°	36.1	27.3	20.0	13.5	7.6	3.1	0.0
65°	39.8	29.9	21.7	14.6	8.4	3.4	0.0
62.5°	43.2	32.7	23.3	15.8	9.1	3.7	0.0
60°	46.6	35.4	24.8	16.8	9.7	4.0	0.0
57.5°	53.8	37.9	26.8	17.8	10.3	4.2	0.0
55°	61.1	40.3	28.6	18.7	10.9	4.5	0.0
52.5°	67.8	43.1	30.4	19.6	11.5	4.7	0.0
50°	74.0	48.0	32.0	20.4	12.0	5.0	0.0
47.5°	80.8	52.6	33.5	21.2	12.5	5.2	0.0
45°	93.7	56.7	35.0	22.3	12.9	5.4	0.0
42.5°	105.5	60.4	36.3	23.3	13.3	5.5	0.0
40°	116.1	63.6	38.2	24.1	13.6	5.7	0.0
37.5°	125.6	66.5	40.6	24.9	14.0	5.9	0.0
35°	134.0	72.1	42.6	25.6	14.2	6.0	0.0
32.5°	144.5	78.5	44.4	26.3	14.5	6.1	0.0
30°	161.3	84.2	45.9	26.8	14.6	6.2	0.0
27.5°	176.5	89.0	47.1	27.2	14.8	6.3	0.0
25°	190.1	92.9	48.0	27.6	14.9	6.3	0.0
22.5°	202.0	96.1	48.7	27.8	15.0	6.4	0.0
20°	212.3	98.4	49.1	28.0	15.0	6.4	0.0
17.5°	220.9	100.0	49.2	28.1	15.0	6.4	0.0
15°	227.7	100.8	49.1	28.1	14.9	6.4	0.0
12.5°	232.9	101.0	48.7	28.0	14.8	6.4	0.0
10°	236.3	100.4	48.1	27.8	14.7	6.4	0.0
7.5°	238.1	99.2	47.3	27.6	14.5	6.3	0.0
5°	238.2	97.4	46.4	27.3	14.3	6.3	0.0
2.5°	236.6	95.1	45.2	26.9	14.1	6.2	0.0
0°	233.3	92.2	43.9	26.4	13.8	6.1	0.0
-2.5°	236.6	95.1	45.2	26.9	14.1	6.2	0.0
-5°	238.2	97.4	46.4	27.3	14.3	6.3	0.0
-7.5°	238.1	99.2	47.3	27.6	14.5	6.3	0.0
-10°	236.3	100.4	48.1	27.8	14.7	6.4	0.0
-12.5°	232.9	101.0	48.7	28.0	14.8	6.4	0.0
-15°	227.7	100.8	49.1	28.1	14.9	6.4	0.0
-17.5°	220.9	100.0	49.2	28.1	15.0	6.4	0.0
-20°	212.3	98.4	49.1	28.0	15.0	6.4	0.0

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CANDELA DISTRIBUTION (continued):

	75°	77.5°	80°	82.5°	85°	87.5°	90°
-22.5°	202.0	96.1	48.7	27.8	15.0	6.4	0.0
-25°	190.1	92.9	48.0	27.6	14.9	6.3	0.0
-27.5°	176.5	89.0	47.1	27.2	14.8	6.3	0.0
-30°	161.3	84.2	45.9	26.8	14.6	6.2	0.0
-32.5°	144.5	78.5	44.4	26.3	14.5	6.1	0.0
-35°	134.0	72.1	42.6	25.6	14.2	6.0	0.0
-37.5°	125.6	66.5	40.6	24.9	14.0	5.9	0.0
-40°	116.1	63.6	38.2	24.1	13.6	5.7	0.0
-42.5°	105.5	60.4	36.3	23.3	13.3	5.5	0.0
-45°	93.7	56.7	35.0	22.3	12.9	5.4	0.0
-47.5°	80.8	52.6	33.5	21.2	12.5	5.2	0.0
-50°	74.0	48.0	32.0	20.4	12.0	5.0	0.0
-52.5°	67.8	43.1	30.4	19.6	11.5	4.7	0.0
-55°	61.1	40.3	28.6	18.7	10.9	4.5	0.0
-57.5°	53.8	37.9	26.8	17.8	10.3	4.2	0.0
-60°	46.6	35.4	24.8	16.8	9.7	4.0	0.0
-62.5°	43.2	32.7	23.3	15.8	9.1	3.7	0.0
-65°	39.8	29.9	21.7	14.6	8.4	3.4	0.0
-67.5°	36.1	27.3	20.0	13.5	7.6	3.1	0.0
-70°	32.3	24.9	18.3	12.3	6.9	2.8	0.0
-72.5°	29.1	22.5	16.5	10.9	6.1	2.4	0.0
-75°	25.8	19.9	14.6	9.4	5.3	2.1	0.0
-77.5°	22.4	17.3	12.3	7.9	4.4	1.8	0.0
-80°	18.9	14.2	9.9	6.4	3.6	1.4	0.0
-82.5°	14.4	10.7	7.5	4.8	2.7	1.1	0.0
-85°	9.6	7.2	5.0	3.2	1.8	0.7	0.0
-87.5°	4.8	3.6	2.5	1.6	0.9	0.4	0.0
-90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)