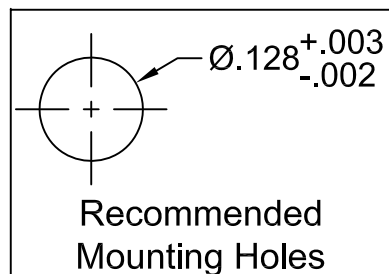
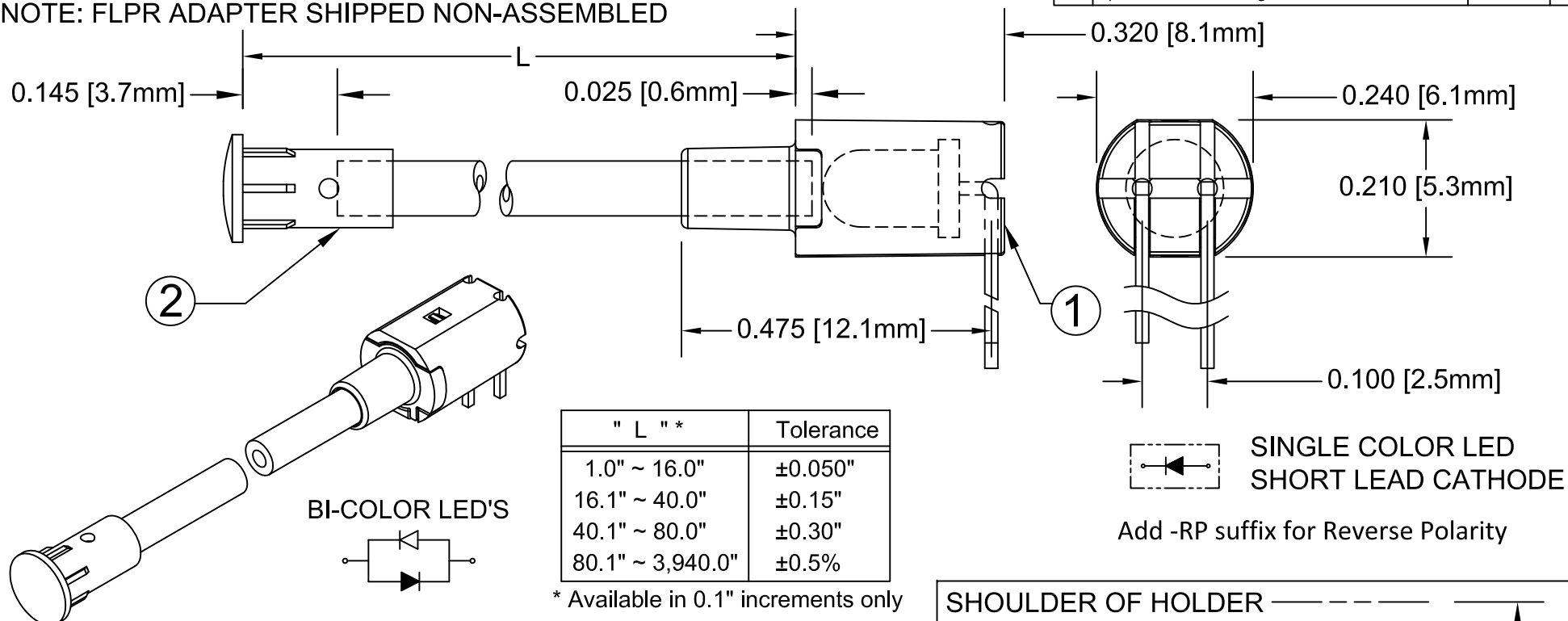


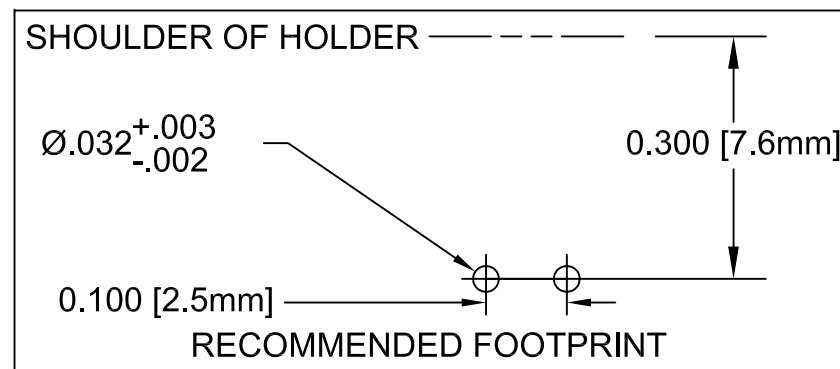
| ITEM | Q'TY | PART NUMBER | PART DESCRIPTION                                         |
|------|------|-------------|----------------------------------------------------------|
| 1    | 1    | FLPR-XX     | Flexible Light Pipe Adapter, 90°, w/LED, See page 2 & 3. |
| 2    | 1    | LC-XX.X     | Flexible Light-Pipe Lens Cap Assembly                    |
|      |      |             |                                                          |

| REV. | DESCRIPTION                                 | DATE     | APPROVED |
|------|---------------------------------------------|----------|----------|
| D    | Added Shipping Note and Tolerance Table     | 04/17/06 | M. C.    |
| E    | Changed Length From 2.5 to 0.5 at "L" Table | 02/12/07 | M. C.    |
| F    | Updated FLPC Hidden View and BOM            | 08/27/08 | M. C.    |
| G    | LED Data Update                             | 11/18/11 | T. Y.    |
| H    | RP note added                               | 02/09/12 | T. Y.    |
| J    | Added the 3HC-F LED to page 2               | 02/09/12 | T. Y.    |
| K    | Updated Table For Length "L"                | 11/15/12 | T. Y.    |

NOTE: FLPR ADAPTER SHIPPED NON-ASSEMBLED



| SHORT LEAD CATHODE | LED PART NO. | LONG LEAD CATHODE |
|--------------------|--------------|-------------------|
| RED                | 3xBCC-F      | GREEN             |
| YELLOW             | 3xBCC-Y/G-F  | GREEN             |
| RED                | 3xBCC-R/Y-F  | YELLOW            |
| AMBER              | 3xBCC-A/G-F  | GREEN             |



## ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

|                                             |                      |
|---------------------------------------------|----------------------|
| REVERSE VOLTAGE                             | 5V                   |
| REVERSE CURRENT                             | 100uA                |
| OPERATING TEMPERATURE RANGE                 | -25° C - 85° C       |
| STORAGE TEMPERATURE                         | -30° C - 100° C      |
| LEAD SOLDERING TEMPERATURE(1/16" FROM BODY) | 260° C FOR 5 SECONDS |

|                                                      |                          |                                                                                                                                                                    |                              |
|------------------------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| STANDARD TOLERANCE<br>( UNLESS OTHERWISE SPECIFIED ) |                          | <br>4 THOMAS, IRVINE, CA. 92618<br>TEL: (949) 951-8808 FAX: (949) 951-3974    |                              |
| <u>DECIMALS</u>                                      | <u>ANGULAR</u>           |                                                                                                                                                                    |                              |
| .X     ± .1                                          | X°   ± 1°                | <br><b>TITLE:</b> FLEXIBLE LIGHT-PIPE ASSY<br>RIGHT ANGLE, 3mm LENS CAP W/LED |                              |
| .XX    ± .02                                         |                          |                                                                                                                                                                    |                              |
| .XXX   ± .010                                        |                          |                                                                                                                                                                    |                              |
| DESIGNED:<br><b>Shane Irving</b>                     | DATE:<br><b>02/09/99</b> | <b>PART NO:</b><br><br>FLPRX.X-XX                                                                                                                                  | REVISION<br><br>K            |
| CHECKED:<br><b>M. Chen</b>                           | DATE:<br><b>07/03/02</b> | <b>CAGE CODE :</b> 32559                                                                                                                                           | <b>SHEET #</b> 1 <b>OF</b> 3 |
| CAD GENERATED DOCUMENT, DO NOT MEASURE DRAWING.      |                          |                                                                                                                                                                    |                              |

| REV. | DESCRIPTION  | DATE | APPROVED |
|------|--------------|------|----------|
|      | SEE SHEET#1. |      |          |
|      |              |      |          |

| Assy Part No.  | LED Part No. | Chip         |                            |               | Lens Appearance | Absolute Max. Ratings |            |            |             | Electro-Optical Data @ 20m A |     |             | Viewing Angle<br>2 θ ½<br>(Deg) |
|----------------|--------------|--------------|----------------------------|---------------|-----------------|-----------------------|------------|------------|-------------|------------------------------|-----|-------------|---------------------------------|
|                |              | Material     | Peak Wave Length<br>λp(nm) | Emitted Color |                 | Δλ<br>(nm)            | Pd<br>(mW) | If<br>(mA) | Peak If(mA) | Vf<br>(V)                    |     | Iv<br>(mcd) |                                 |
|                |              |              |                            |               |                 |                       |            |            |             | TYP                          | MAX | TYP         |                                 |
| FLPRX.X-SG     | 3SGC-F       | GaP/GaP      | 568                        | SUPER GREEN   | WATER CLEAR     | -                     | 80         | 30         | 150         | 2.1                          | 2.8 | 50          | 20                              |
| FLPRX.X-SY     | 3SYC-F       | GaAsP/GaP    | 590                        | SUPER YELLOW  | WATER CLEAR     | -                     | 85         | 30         | 150         | 2.0                          | 2.8 | 50          | 20                              |
| FLPRX.X-SA     | 3SAC-F       | AlGaInP      | 605                        | SUPER AMBER   | WATER CLEAR     | -                     | 100        | 30         | 150         | 1.8                          | 2.4 | 300         | 20                              |
| FLPRX.X-SR     | 3SRC-F       | GaAlAsP/GaAs | 645                        | SUPER RED     | WATER CLEAR     | -                     | 70         | 30         | 150         | 1.7                          | 2.4 | 60          | 20                              |
| FLPRX.X-UBW.6K | 3UBWC-0.6K-F | GaN/SiC      | 470                        | BLUE          | WATER CLEAR     | -                     | 150        | 25         | 70          | 4.0                          | 4.5 | 400         | 20                              |
| FLPRX.X-UT     | 3UTC-F       | GaN/SiC      | 500                        | TURQUOISE     | WATER CLEAR     | -                     | 70         | 30         | 150         | 3.5                          | 4.0 | 800         | 20                              |
| FLPRX.X-UG     | 3UGC-F       | AlGaInP      | 570                        | GREEN         | WATER CLEAR     | -                     | 100        | 30         | 150         | 2.1                          | 2.4 | 200         | 20                              |
| FLPRX.X-SUG    | 3SUGC-F      | AlGaInP      | 570                        | GREEN         | WATER CLEAR     | -                     | 100        | 30         | 150         | 2.1                          | 2.4 | 300         | 20                              |
| FLPRX.X-UY     | 3UYC-F       | AlGaInP      | 590                        | YELLOW        | WATER CLEAR     | -                     | 85         | 30         | 150         | 2.0                          | 2.4 | 300         | 20                              |
| FLPRX.X-SUY    | 3SUYC-F      | AlGaInP      | 590                        | YELLOW        | WATER CLEAR     | -                     | 85         | 30         | 150         | 2.0                          | 2.4 | 400         | 20                              |
| FLPRX.X-UUY    | 3UUYC-F      | AlGaInP      | 590                        | YELLOW        | WATER CLEAR     | -                     | 85         | 30         | 150         | 2.0                          | 2.4 | 600         | 20                              |
| FLPRX.X-UO     | 3UOC-F       | AlGaInP      | 625                        | ORANGE        | WATER CLEAR     | -                     | 100        | 30         | 150         | 1.8                          | 2.4 | 300         | 20                              |
| FLPRX.X-SUO    | 3SUOC-F      | AlGaInP      | 625                        | ORANGE        | WATER CLEAR     | -                     | 100        | 30         | 150         | 1.8                          | 2.4 | 400         | 20                              |
| FLPRX.X-UR     | 3URC-F       | GaAlAs/GaAs  | 645                        | RED           | WATER CLEAR     | -                     | 60         | 30         | 150         | 1.7                          | 2.4 | 200         | 20                              |
| FLPRX.X-SUR    | 3SURC-F      | AlGaInP      | 640                        | RED           | WATER CLEAR     | -                     | 70         | 30         | 150         | 1.8                          | 2.4 | 200         | 20                              |
| FLPRX.X-H      | 3HC-F        | GaAsP/GaP    | 625                        | RED           | WATER CLEAR     | -                     | 80         | 30         | 150         | 2.0                          | 2.8 | 50          | 20                              |

|                                                                                |  |                                                                                       |  |                                                                                                             |  |
|--------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------|--|
| STANDARD TOLERANCE<br>( UNLESS OTHERWISE SPECIFIED )<br><u>±10% ALL VALUES</u> |  | ANGULAR<br>X° ± 5°                                                                    |  | <div>BIVAR®</div> <div>4 THOMAS, IRVINE, CA. 92618</div> <div>TEL: (949) 951-8808 FAX: (949) 951-3974</div> |  |
|                                                                                |  |  |  | TITLE: FLEXIBLE LIGHT-PIPE ASSY<br>RIGHT ANGLE, 3mm LENS CAP W/LED                                          |  |
| DESIGNED:<br>David Green                                                       |  | DATE:<br>06/09/03                                                                     |  | PART NO: FLPRX.X-XX                                                                                         |  |
| CHECKED:<br>M. Chen                                                            |  | DATE:<br>06/09/03                                                                     |  | REVISION<br>K                                                                                               |  |
|                                                                                |  |                                                                                       |  | CAGE CODE : 32559 SHEET # 2 OF 3                                                                            |  |
| CAD GENERATED DOCUMENT. DO NOT MEASURE DRAWING.                                |  |                                                                                       |  |                                                                                                             |  |

| REV. | DESCRIPTION  | DATE | APPROVED |
|------|--------------|------|----------|
|      | SEE SHEET#1. |      |          |
|      |              |      |          |

| Assy Part No.   | LED Part No. | Chip        |                            |               | Lens Appearance | Absolute Max. Ratings |            |            |             | Electro-Optical Data @ 20mA |     |             | Viewing Angle<br>2 θ ½<br>(Deg) |
|-----------------|--------------|-------------|----------------------------|---------------|-----------------|-----------------------|------------|------------|-------------|-----------------------------|-----|-------------|---------------------------------|
|                 |              | Material    | Peak Wave Length<br>λp(nm) | Emitted Color |                 | Δλ<br>(nm)            | Pd<br>(mW) | If<br>(mA) | Peak If(mA) | Vf (V)                      |     | Iv<br>(mcd) |                                 |
|                 |              |             |                            |               |                 |                       |            |            |             | TYP                         | MAX | TYP         |                                 |
| FLPRX.X-BC      | 3BCC-F       | GaAsP/GaP   | 625                        | RED           | WATER CLEAR     | 35                    | 80         | 30         | 150         | 2.0                         | 2.8 | 8           | 40                              |
|                 |              | GaP/GaP     | 568                        | GREEN         |                 | 30                    | 80         | 30         | 150         | 2.1                         | 2.8 | 8           |                                 |
| FLPRX.X-BC-Y/G  | 3BCC-Y/G-F   | GaAsP/GaP   | 590                        | YELLOW        | WATER CLEAR     | 35                    | 80         | 30         | 150         | 2.0                         | 2.8 | 6           | 40                              |
|                 |              | GaP/GaP     | 568                        | GREEN         |                 | 30                    | 80         | 30         | 150         | 2.1                         | 2.8 | 8           |                                 |
| FLPRX.X-BC-R/Y  | 3BCC-R/Y-F   | GaAsP/GaP   | 625                        | RED           | WATER CLEAR     | 35                    | 80         | 30         | 150         | 2.0                         | 2.8 | 8           | 40                              |
|                 |              | GaP/GaP     | 590                        | YELLOW        |                 | 30                    | 80         | 30         | 150         | 2.0                         | 2.8 | 6           |                                 |
| FLPRX.X-BC-A/G  | 3BCC-A/G-F   | GaAsP/GaP   | 605                        | AMBER         | WATER CLEAR     | 35                    | 80         | 30         | 150         | 2.0                         | 2.8 | 6           | 40                              |
|                 |              | GaP/GaP     | 568                        | GREEN         |                 | 30                    | 80         | 30         | 150         | 2.1                         | 2.8 | 8           |                                 |
| FLPRX.X-SBC     | 3SBCC-F      | GaAlAs/GaAs | 645                        | SUPER RED     | WATER CLEAR     | -                     | 70         | 30         | 150         | 1.7                         | 2.4 | 100         | 20                              |
|                 |              | GaP/GaP     | 568                        | SUPER GREEN   |                 | -                     | 80         | 30         | 150         | 2.1                         | 2.8 | 60          |                                 |
| FLPRX.X-SBC-Y/G | 3SBCC-Y/G-F  | InGaAlP     | 585                        | SUPER YELLOW  | WATER CLEAR     | -                     | 85         | 20         | 160         | 2.1                         | 2.4 | 15          | 40                              |
|                 |              | GaP/GaP     | 565                        | SUPER GREEN   |                 | -                     | 80         | 20         | 160         | 2.1                         | 2.8 | 5           |                                 |
| FLPRX.X-SBC-R/Y | 3SBCC-R/Y-F  | GaAlAs/GaAs | 645                        | SUPER RED     | WATER CLEAR     | -                     | 70         | 30         | 150         | 1.7                         | 2.4 | 100         | 20                              |
|                 |              | AlGaInP     | 590                        | SUPER YELLOW  |                 | -                     | 85         | 30         | 150         | 2.0                         | 2.4 | 300         |                                 |

|                                                                                                          |                 |                                                                                                                                                                    |                |
|----------------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| STANDARD TOLERANCE<br>( UNLESS OTHERWISE SPECIFIED )<br><u>±10% ALL VALUES</u> <u>ANGULAR</u><br>X° ± 5° |                 | <br>4 THOMAS, IRVINE, CA. 92618<br>TEL: (949) 951-8808    FAX: (949) 951-3974 |                |
|                                                                                                          |                 |                                                                               |                |
| DESIGNED:                                                                                                | DATE:           | TITLE: FLEXIBLE LIGHT-PIPE ASSY<br>RIGHT ANGLE, 3mm LENS CAP W/LED                                                                                                 |                |
| <b>David Green</b>                                                                                       | <b>06/09/03</b> | PART NO:                                                                                                                                                           | FLPRX.X-XX     |
| CHECKED:                                                                                                 | DATE:           | CAGE CODE : 32559                                                                                                                                                  | SHEET # 3 OF 3 |
| <b>M. Chen</b>                                                                                           | <b>06/09/03</b> | CAD GENERATED DOCUMENT, DO NOT MEASURE DRAWING.                                                                                                                    |                |