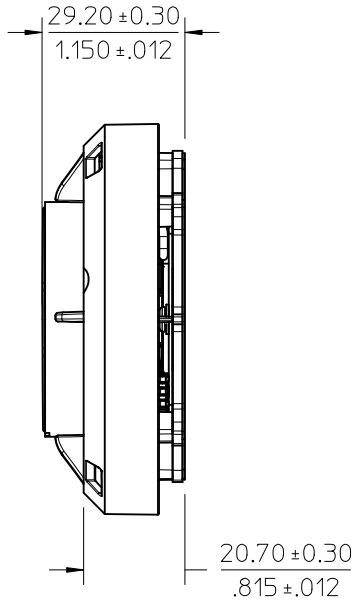
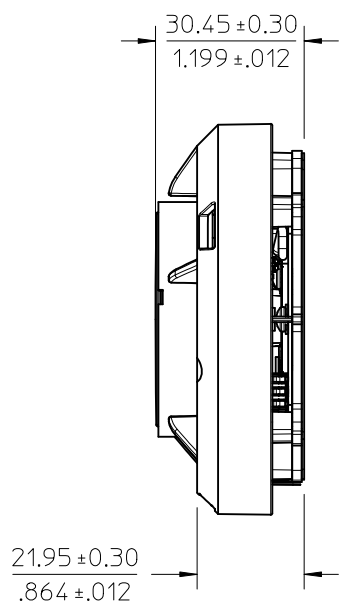
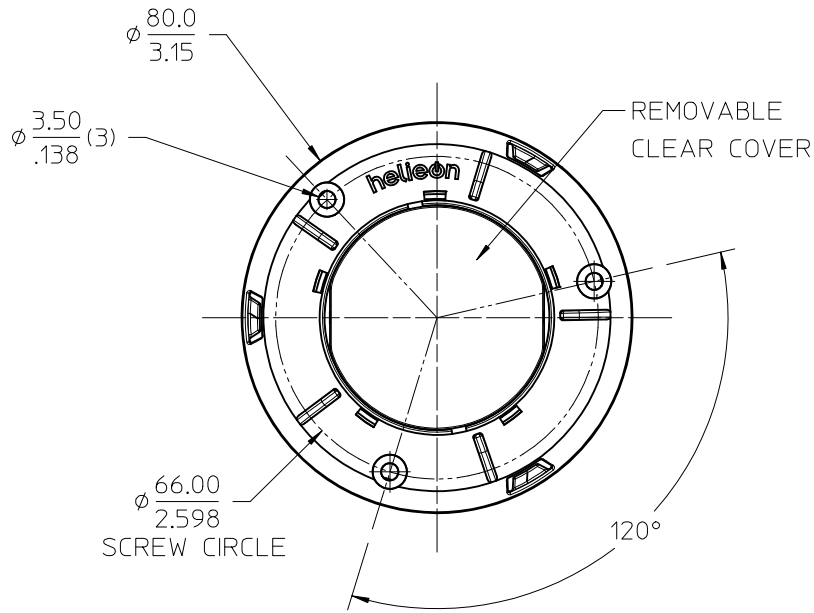


10 9 8 7 6 5 4 3 2 1



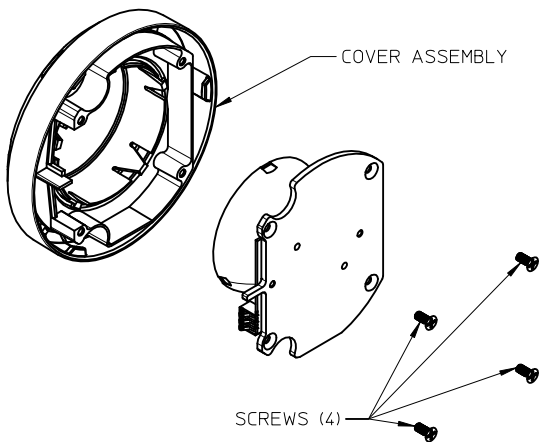
MODULE IN FREE STATE
(BEFORE INSTALLATION)

MODULE COMPRESSED
(AFTER INSTALLATION)

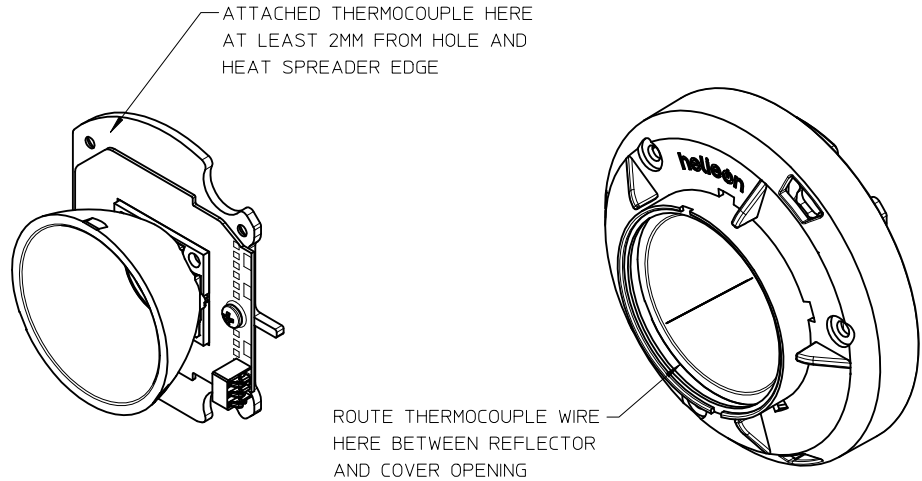
- NOTES:
- 1) MODULE MATES TO HELIEON SOCKET P/N 180080-0000.
 - 2) MODULE REQUIRES EXTERNAL HEAT SINK.
RECOMMENDED MAXIMUM TEMPERATURE IS 95°C
AT MEASUREMENT POINTS SHOWN ON PAGES 2 AND 3.
 - 3) MODULE IS SHIPPED WITH REMOVABLE CLEAR COVER.
SEE SHEET 4 FOR REMOVAL INSTRUCTIONS.
 - 4) DECORATIVE COVER OR SECONDARY OPTICS MAY BE
ATTACHED TO FRONT OF MODULE BY 3 HOLES PROVIDED.
SEE SHEET 5 FOR ATTACHMENT DIMENSIONS.
 - 5) MODULE OPTIONS PROVIDE VARIOUS COLOR TEMPERATURES,
LUMINOUS FLUX LEVELS, AND OPTICS. SEE SHEET 6
FOR CHARTED PART NUMBERS AND OPTIONS.

| | | | | | | |
|--|---|--|---|---|---|---------------------|
| ENTER DESCRIPTION EC NO: SSL2011-0005 /DRAWN:DMCGOWAN 2010/07/26 CHKD: 2010/08/10 APPR:DMCGOWAN 2010/08/10 REV B | QUALITY SYMBOLS ▽=0 ▽=0 ▽=0 | GENERAL TOLERANCES (UNLESS SPECIFIED) mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± .005 2 PLACES ± 0.13 ± .01 1 PLACE ± 0.25 ± --- ANGULAR ± 1/2° | DIMENSION STYLE MM/IN DRAWN BY DATE MCGOWAN 2010/02/08 CHECKED BY DATE DACHAMMER 2010/02/22 APPROVED BY DATE DMCGOWAN 2010/03/22 | SCALE 1:1 TITLE HELIEON 80MM MODULE SALES DRAWING | DESIGN UNITS METRIC THIRD ANGLE PROJECTION | |
| | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | | | MATERIAL NO. SEE CHART | MOLEX INCORPORATED DOCUMENT NO. SD-180081-000 | SHEET NO. 1 OF 7 |
| | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION | | | | | |
| | MILEX | | | | | |

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STEP 1:
REMOVE SCREWS (4) AND
LIFT OFF COVER ASSEMBLY



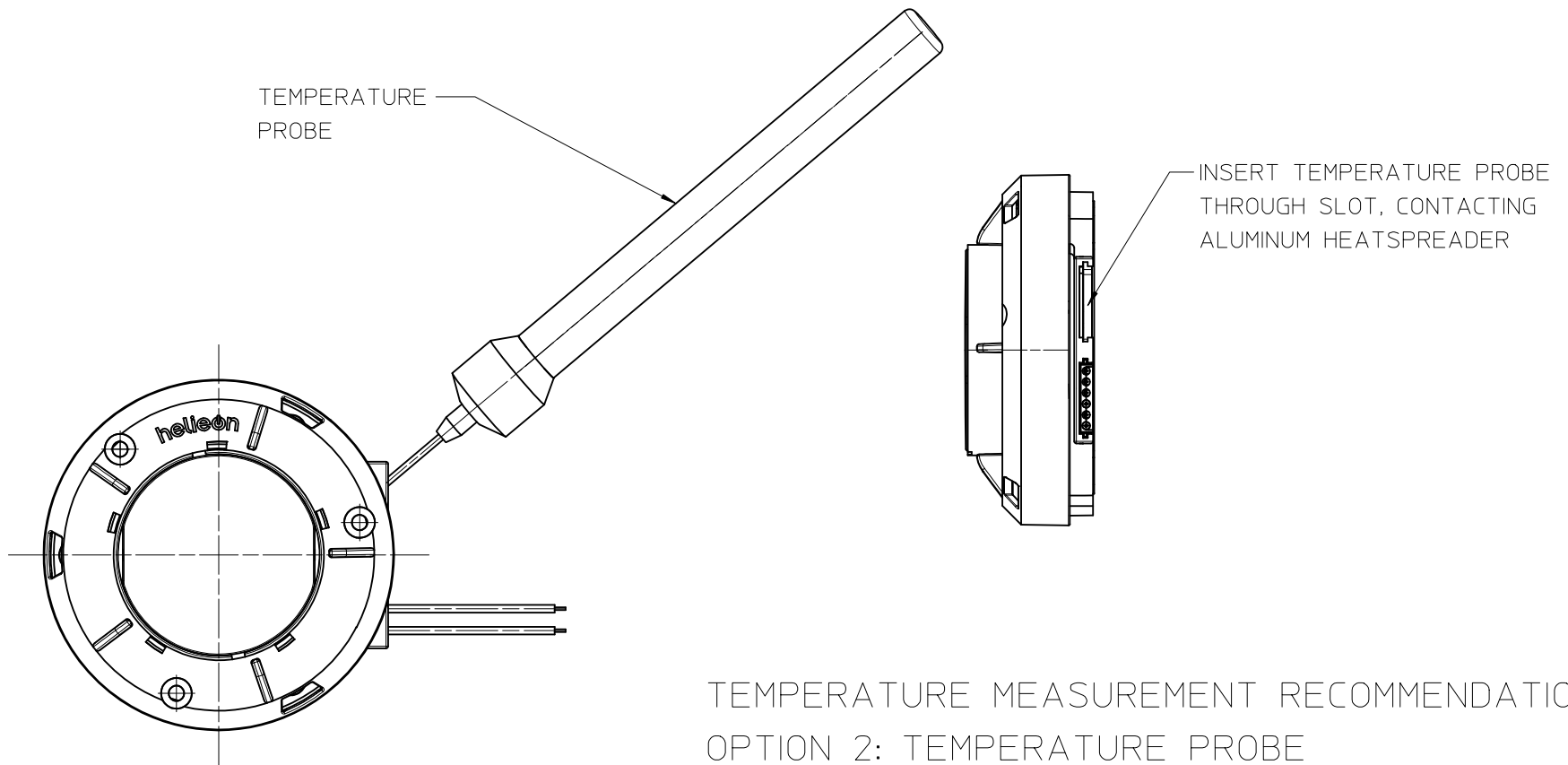
STEP 2:
ATTACH THERMOCOUPLE WITH
THERMALLY CONDUCTIVE EPOXY

STEP 3:
ROUTE THERMOCOUPLE WIRE BETWEEN
REFLECTOR AND COVER OPENING

TEMPERATURE MEASUREMENT RECOMMENDATION OPTION 1: THERMOCOUPLE INSIDE MODULE

| | | | | | |
|---|--------------------------------------|---|---|--|---|
| ENTER DESCRIPTION EC NO: SSL2011-0005 DRAWN:DMCGOWAN 2010/07/26 CHKD: 2010/08/10 APPR:DMCGOWAN 2010/08/10 REV B | QUALITY SYMBOLS F/0 F/0 F/0 | GENERAL TOLERANCES (UNLESS SPECIFIED) mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± .005 2 PLACES ± 0.13 ± .01 1 PLACE ± 0.25 ± --- ANGULAR ±1/2° | DIMENSION STYLE MM/IN DRAWN BY DATE MCGOWAN 2010/02/08 CHECKED BY DATE DACHAMMER 2010/02/22 APPROVED BY DATE DMCGOWAN 2010/03/22 | SCALE 1:1 DESIGN UNITS METRIC THIRD ANGLE PROJECTION | TITLE HELIEON 80MM MODULE SALES DRAWING |
| | | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | MATERIAL NO. SEE CHART | DOCUMENT NO. SD-180081-000 | SHEET NO. 2 OF 7 |
| | | | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION | | |
| | | | | | |
| | | | | | |

10 9 8 7 6 5 4 3 2 1



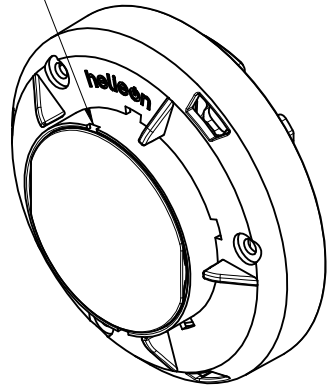
TEMPERATURE MEASUREMENT RECOMMENDATION
OPTION 2: TEMPERATURE PROBE

| | | | | | | | | | | |
|--|---|--|---|--|----------------------------------|---------------------|--|-------------------------------|--------------------------------------|--|
| ENTER DESCRIPTION EC NO: SSL2011-0005 DRAWN:DMCGOWAN 2010/07/26 CHKD: 2010/08/10 APPR:DMCGOWAN 2010/08/10 B | QUALITY SYMBOLS ▽/0 ▽/0 ▽/0 | GENERAL TOLERANCES (UNLESS SPECIFIED) | | DIMENSION STYLE MM/IN | | SCALE 1:1 | DESIGN UNITS METRIC | THIRD ANGLE PROJECTION | | |
| | | | mm | INCH | DRAWN BY MCGOWAN | DATE 2010/02/08 | TITLE HELIEON 80MM MODULE SALES DRAWING | | | |
| | | 4 PLACES | ± --- | ± --- | CHECKED BY DACHAMMER | DATE 2010/02/22 | | | | |
| | | 3 PLACES | ± --- | ± .005 | APPROVED BY DMCGOWAN | DATE 2010/03/22 | MOLEX INCORPORATED | | DOCUMENT NO. SD-180081-000 | |
| 2 PLACES | ± 0.13 | ± .01 | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | | MATERIAL NO. SEE CHART | | | | | |
| 1 PLACE | ± 0.25 | ± --- | | | | | | | | |
| | | ANGULAR ±1/2° | | | | | | | | |

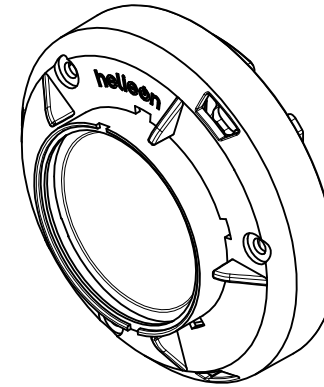
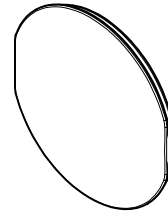
9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2 1

INSERT FLATHEAD SCREWDRIVER
IN SLOT (2) TO REMOVE CLEAR COVER
(SLOT IS 3MM/.12INCH WIDE)



MODULE WITH CLEAR COVER
(AS SHIPPED)



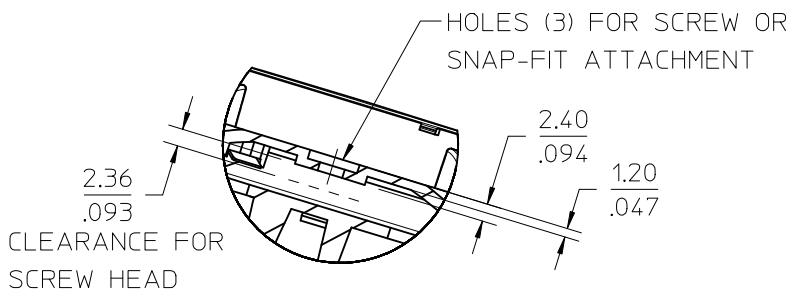
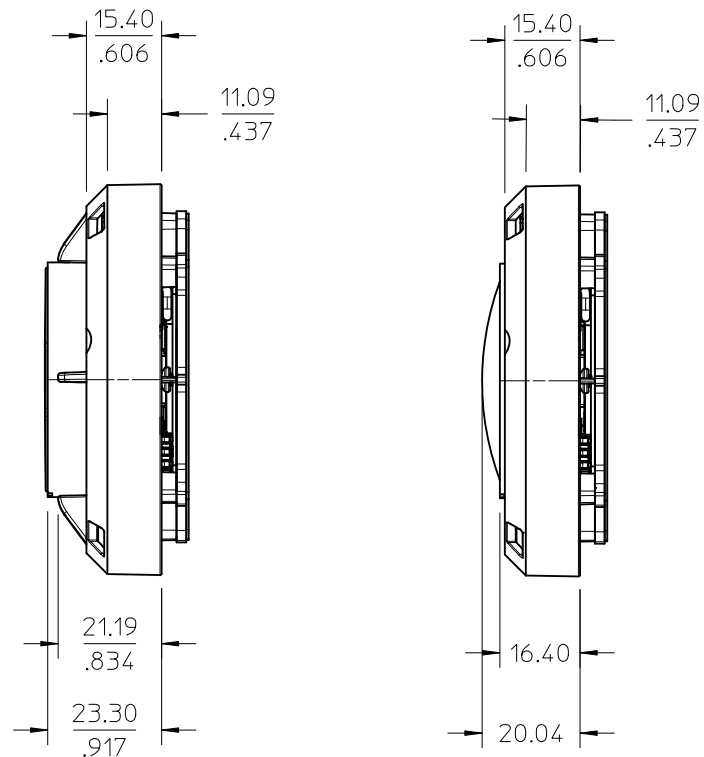
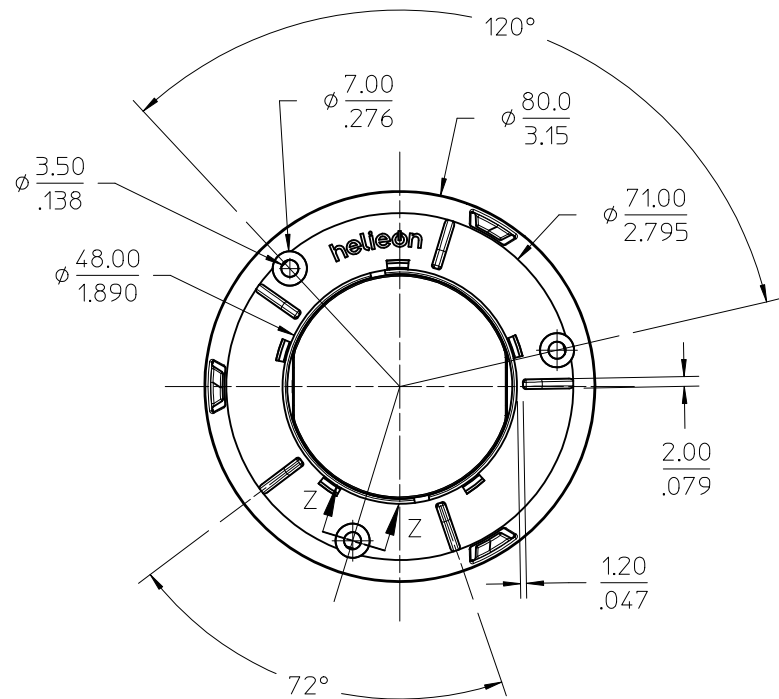
MODULE AFTER CLEAR
COVER REMOVAL

CLEAR COVER REMOVAL INSTRUCTIONS

| | | | | | | | | | | |
|--|--------------------------------------|---------------------------------------|---------------|---------------------------------|-------------------------|---------------------|---|------------------------|--|--|
| ENTER DESCRIPTION EC NO: SSL2011-0005 DRAWN:DMCGOWAN 2010/07/26 CHKD: 2010/08/10 APPR:DMCGOWAN 2010/08/10 | QUALITY SYMBOLS ▽/0 ▽/0 ▽/0 | GENERAL TOLERANCES (UNLESS SPECIFIED) | | DIMENSION STYLE MM/IN | | SCALE 1:1 | DESIGN UNITS METRIC | THIRD ANGLE PROJECTION | | |
| | | | mm | INCH | DRAWN BY MCGOWAN | DATE 2010/02/08 | TITLE HELIEON 80MM MODULE SALES DRAWING | | | |
| | | 4 PLACES | ±--- | ±--- | CHECKED BY DACHAMMER | DATE 2010/02/22 | | | | |
| | | 3 PLACES | ±--- | ±.005 | APPROVED BY DMCGOWAN | DATE 2010/03/22 | MOLEX INCORPORATED DOCUMENT NO. SD-180081-000 | | | |
| 2 PLACES | ±0.13 | ±.01 | MATERIAL NO. | | SHEET NO. 4 OF 7 | | | | | |
| 1 PLACE | ±0.25 | ±--- | ANGULAR ±1/2° | | SEE CHART | | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION | | | |
| DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | | | | | | | | | | |

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10 9 8 7 6 5 4 3 2 1



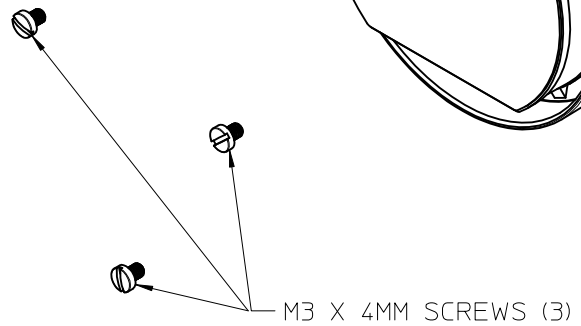
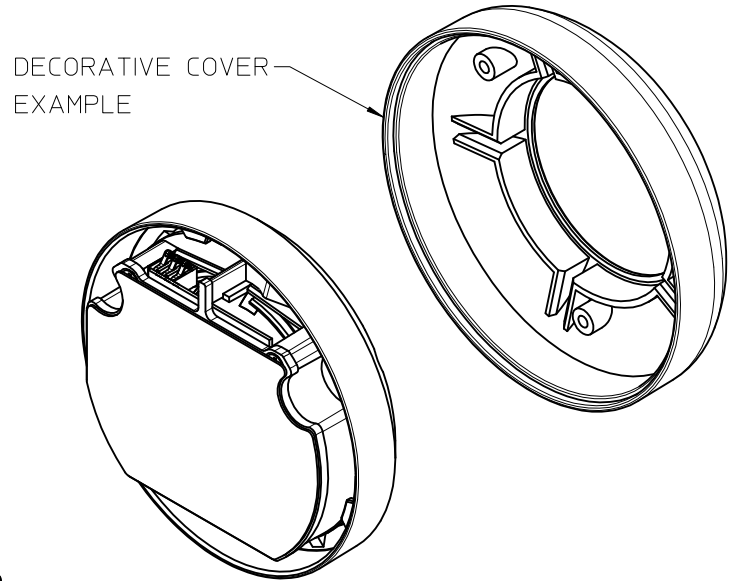
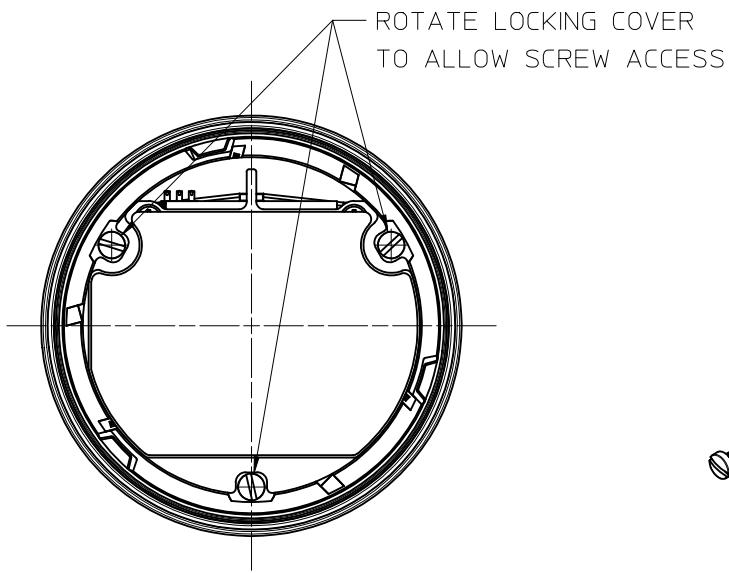
SECTION Z-Z
SCALE 1.5:1

DIMENSIONS FOR DECORATIVE COVER
OR SECONDARY OPTIC ATTACHMENT

| | | | | | | | | | | |
|--|---|--|------------|---|------------|--|-------------------------------|------------------------|--|--|
| ENTER DESCRIPTION EC NO: SSL2011-0005 DRAWN:DMCGOWAN 2010/07/26 CHKD: 2010/08/10 APPR:DMCGOWAN 2010/08/10 B | QUALITY SYMBOLS ▽/0 ▽/0 ▽/0 | GENERAL TOLERANCES (UNLESS SPECIFIED) | | DIMENSION STYLE MM/IN | | SCALE 1:1 | DESIGN UNITS METRIC | THIRD ANGLE PROJECTION | | |
| | | mm | INCH | DRAWN BY | DATE | TITLE HELIEON 80MM MODULE SALES DRAWING | | | | |
| | | 4 PLACES ± --- | ± --- | MCGOWAN | 2010/02/08 | | | | | |
| | | 3 PLACES ± --- | ± .005 | CHECKED BY | DATE | MOLEX INCORPORATED DOCUMENT NO. SD-180081-000 SHEET NO. 5 OF 7 | | | | |
| 2 PLACES ± 0.13 | ± .01 | DACHAMMER | 2010/02/22 | | | | | | | |
| 1 PLACE ± 0.25 | ± --- | APPROVED BY | DATE | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION | | | | | | |
| ANGULAR ± 1/2° | | DMCGOWAN | 2010/03/22 | | | | | | | |
| DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | | SEE CHART | | | | | | | | |

9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2 1



DECORATIVE COVER ATTACHMENT - EXAMPLE

- NOTES:
- 1) DECORATIVE COVER AND SCREW ATTACHMENT METHOD SHOWN IS FOR ILLUSTRATION ONLY.
 - 2) LIMIT WEIGHT OF DECORATIVE COVER TO 10 N (2 LBS) MAX.
 - 3) SCREW DIMENSIONS SHOWN ARE FOR THE EXAMPLE DECORATIVE COVER ONLY. ALTERNATE DECORATIVE COVERS MAY REQUIRE OTHER SCREW LENGTHS.

| ENTER DESCRIPTION EC NO: SSL2011-0005 DRAWN:DMCGOWAN 2010/07/26 CHKD: 2010/08/10 APPR:DMCGOWAN 2010/08/10 REV B | QUALITY SYMBOLS $\nabla F/0$ $\nabla F/0$ $\nabla F/0$ | GENERAL TOLERANCES (UNLESS SPECIFIED) <table border="1"> <tr> <th></th> <th>mm</th> <th>INCH</th> </tr> <tr> <td>4 PLACES</td> <td>\pm---</td> <td>\pm---</td> </tr> <tr> <td>3 PLACES</td> <td>\pm---</td> <td>\pm.005</td> </tr> <tr> <td>2 PLACES</td> <td>\pm0.13</td> <td>\pm.01</td> </tr> <tr> <td>1 PLACE</td> <td>\pm0.25</td> <td>\pm---</td> </tr> <tr> <td colspan="3">ANGULAR \pm1/2°</td> </tr> </table> | | mm | INCH | 4 PLACES | \pm --- | \pm --- | 3 PLACES | \pm --- | \pm .005 | 2 PLACES | \pm 0.13 | \pm .01 | 1 PLACE | \pm 0.25 | \pm --- | ANGULAR \pm 1/2° | | | DIMENSION STYLE MM/IN DRAWN BY DATE MCGOWAN 2010/02/08 CHECKED BY DATE DACHAMMER 2010/02/22 APPROVED BY DATE DMCGOWAN 2010/03/22 | SCALE 1:1 DESIGN UNITS METRIC THIRD ANGLE PROJECTION | TITLE HELIEON 80MM MODULE SALES DRAWING Molex MOLEX INCORPORATED DOCUMENT NO. SD-180081-000 SHEET NO. 6 OF 7 |
|---|---|--|------------|---|------|----------|-----------|-----------|----------|-----------|------------|----------|------------|-----------|---------|------------|-----------|--------------------|--|--|--|--|--|
| | | mm | INCH | | | | | | | | | | | | | | | | | | | | |
| | 4 PLACES | \pm --- | \pm --- | | | | | | | | | | | | | | | | | | | | |
| | 3 PLACES | \pm --- | \pm .005 | | | | | | | | | | | | | | | | | | | | |
| 2 PLACES | \pm 0.13 | \pm .01 | | | | | | | | | | | | | | | | | | | | | |
| 1 PLACE | \pm 0.25 | \pm --- | | | | | | | | | | | | | | | | | | | | | |
| ANGULAR \pm 1/2° | | | | | | | | | | | | | | | | | | | | | | | |
| DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | | MATERIAL NO. | SEE CHART | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION | | | | | | | | | | | | | | | | | | | |
| | | SIZE B | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |

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| ASSEMBLY PART NUMBER | COLOR TEMPERATURE | LUMINOUS FLUX | BEAM ANGLE (FULL WIDTH HALF MAXIMUM) | 700mA PERFORMANCE | | | 1050mA PERFORMANCE | | | 1400mA PERFORMANCE | | | MODULE STATUS |
|----------------------|-------------------|---------------|--------------------------------------|-------------------|---------|---------|--------------------|---------|---------|--------------------|---------|---------|---------------|
| | | | | LUMENS | VOLTAGE | WATTAGE | LUMENS | VOLTAGE | WATTAGE | LUMENS | VOLTAGE | WATTAGE | |
| 180081-2220 | 3000K (WARM) | STANDARD | NARROW FLOOD - 24° | 490 | 11.4 V | 7.9 W | 710 | 11.9 V | 12.4 W | 860 | 12.3 V | 17.2 W | TOOLED |
| 180081-2230 | 3000K (WARM) | STANDARD | FLOOD - 32° | 490 | 11.4 V | 7.9 W | 710 | 11.9 V | 12.4 W | 860 | 12.3 V | 17.2 W | TOOLED |
| 180081-2250 | 3000K (WARM) | STANDARD | WIDE FLOOD - 50° | 490 | 11.4 V | 7.9 W | 710 | 11.9 V | 12.4 W | 860 | 12.3 V | 17.2 W | TOOLED |
| 180081-2270 | 3000K (WARM) | STANDARD | DIFFUSE-STANDARD HEIGHT - 91° | 490 | 11.4 V | 7.9 W | 710 | 11.9 V | 12.4 W | 860 | 12.3 V | 17.2 W | NOT TOOLED |
| 180081-2280 | 3000K (WARM) | STANDARD | DIFFUSE-LOW PROFILE - 100° | 490 | 11.4 V | 7.9 W | 710 | 11.9 V | 12.4 W | 860 | 12.3 V | 17.2 W | NOT TOOLED |
| 180081-2320 | 3000K (WARM) | HIGH | NARROW FLOOD - 24° | 730 | 17.2 V | 12.0 W | 1040 | 17.9 V | 18.8 W | 1330 | 18.5 V | 25.8 W | TOOLED |
| 180081-2330 | 3000K (WARM) | HIGH | FLOOD - 32° | 730 | 17.2 V | 12.0 W | 1040 | 17.9 V | 18.8 W | 1330 | 18.5 V | 25.8 W | TOOLED |
| 180081-2350 | 3000K (WARM) | HIGH | WIDE FLOOD - 50° | 730 | 17.2 V | 12.0 W | 1040 | 17.9 V | 18.8 W | 1330 | 18.5 V | 25.8 W | TOOLED |
| 180081-2370 | 3000K (WARM) | HIGH | DIFFUSE-STANDARD HEIGHT - 91° | 730 | 17.2 V | 12.0 W | 1040 | 17.9 V | 18.8 W | 1330 | 18.5 V | 25.8 W | NOT TOOLED |
| 180081-2380 | 3000K (WARM) | HIGH | DIFFUSE-LOW PROFILE - 100° | 730 | 17.2 V | 12.0 W | 1040 | 17.9 V | 18.8 W | 1330 | 18.5 V | 25.8 W | NOT TOOLED |
| 180081-4220 | 4100K (NEUTRAL) | STANDARD | NARROW FLOOD - 24° | 550 | 11.4 V | 7.9 W | 800 | 11.9 V | 12.4 W | 1020 | 12.3 V | 17.2 W | TOOLED |
| 180081-4230 | 4100K (NEUTRAL) | STANDARD | FLOOD - 32° | 550 | 11.4 V | 7.9 W | 800 | 11.9 V | 12.4 W | 1020 | 12.3 V | 17.2 W | TOOLED |
| 180081-4250 | 4100K (NEUTRAL) | STANDARD | WIDE FLOOD - 50° | 550 | 11.4 V | 7.9 W | 800 | 11.9 V | 12.4 W | 1020 | 12.3 V | 17.2 W | TOOLED |
| 180081-4270 | 4100K (NEUTRAL) | STANDARD | DIFFUSE-STANDARD HEIGHT - 91° | 550 | 11.4 V | 7.9 W | 800 | 11.9 V | 12.4 W | 1020 | 12.3 V | 17.2 W | NOT TOOLED |
| 180081-4280 | 4100K (NEUTRAL) | STANDARD | DIFFUSE-LOW PROFILE - 100° | 550 | 11.4 V | 7.9 W | 800 | 11.9 V | 12.4 W | 1020 | 12.3 V | 17.2 W | NOT TOOLED |
| 180081-4320 | 4100K (NEUTRAL) | HIGH | NARROW FLOOD - 24° | 840 | 17.2 V | 12.0 W | 1200 | 17.9 V | 18.8 W | 1530 | 18.5 V | 25.8 W | TOOLED |
| 180081-4330 | 4100K (NEUTRAL) | HIGH | FLOOD - 32° | 840 | 17.2 V | 12.0 W | 1200 | 17.9 V | 18.8 W | 1530 | 18.5 V | 25.8 W | TOOLED |
| 180081-4350 | 4100K (NEUTRAL) | HIGH | WIDE FLOOD - 50° | 840 | 17.2 V | 12.0 W | 1200 | 17.9 V | 18.8 W | 1530 | 18.5 V | 25.8 W | TOOLED |
| 180081-4370 | 4100K (NEUTRAL) | HIGH | DIFFUSE-STANDARD HEIGHT - 91° | 840 | 17.2 V | 12.0 W | 1200 | 17.9 V | 18.8 W | 1530 | 18.5 V | 25.8 W | NOT TOOLED |
| 180081-4380 | 4100K (NEUTRAL) | HIGH | DIFFUSE-LOW PROFILE - 100° | 840 | 17.2 V | 12.0 W | 1200 | 17.9 V | 18.8 W | 1530 | 18.5 V | 25.8 W | NOT TOOLED |

P/N 180081-ABCD

- D = 0 (CONSTANT CURRENT POWER SUPPLY)
- C = 2 (NARROW FLOOD - 24°), 3 (FLOOD - 32°), 5 (WIDE FLOOD - 50°)
7 (DIFFUSE-STANDARD HEIGHT - 91°), 8 (DIFFUSE-LOW PROFILE - 100°)
- B = 2 (STANDARD FLUX), 3 (HIGH FLUX)
- A = 2 (3000K - WARM), 4 (4100K - NEUTRAL)

LUMEN, VOLTAGE, AND WATTAGE LEVELS ARE NOMINAL AT LED CASE TEMPERATURE = 60°C (50°C AT MODULE MEASUREMENT POINT). VALUE RANGES ARE ±10% OF THE NOMINAL VALUES.

| | | | | | | | | | | |
|---|------------------------------------|--|-----------------------|--|----------------------|---|---|---|---------------------|--|
| ENTER DESCRIPTION EC NO: SSL2011-0005 DRAWN:DMCGOWAN 2010/07/26 CHKD: 2010/08/10 APPR:DMCGOWAN 2010/08/10 REV | QUALITY SYMBOLS | GENERAL TOLERANCES (UNLESS SPECIFIED) | | DIMENSION STYLE MM/IN | | SCALE 1:1 | DESIGN UNITS METRIC | THIRD ANGLE PROJECTION | | |
| | | 4 PLACES ± --- ± --- | 3 PLACES ± --- ± .005 | 2 PLACES ± 0.13 ± .01 | 1 PLACE ± 0.25 ± --- | DRAWN BY DATE MCGOWAN 2010/02/08 | CHECKED BY DATE DACHAMMER 2010/02/22 | TITLE HELIEON 80MM MODULE SALES DRAWING | | |
| | | ANGULAR ±1/2° | | | | APPROVED BY DATE DMCGOWAN 2010/03/22 | MOLEX INCORPORATED | | | |
| | | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | | | | MATERIAL NO. | SEE CHART | DOCUMENT NO. SD-180081-000 | SHEET NO. 7 OF 7 | |