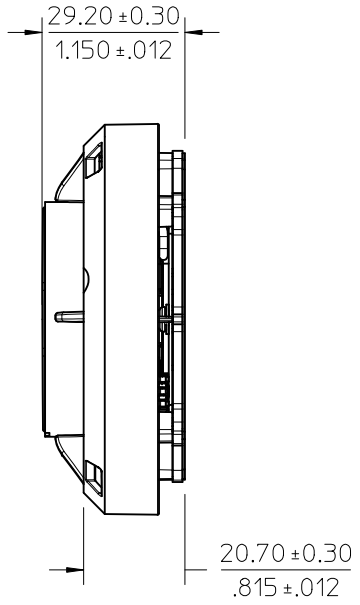
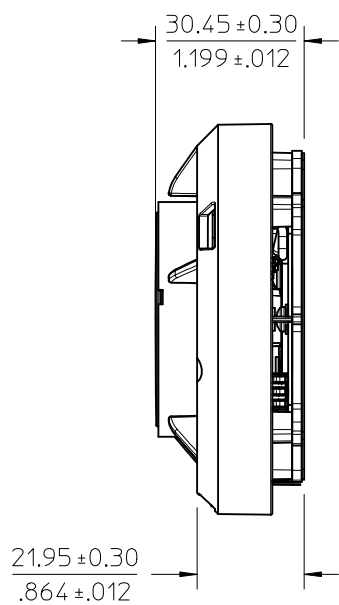
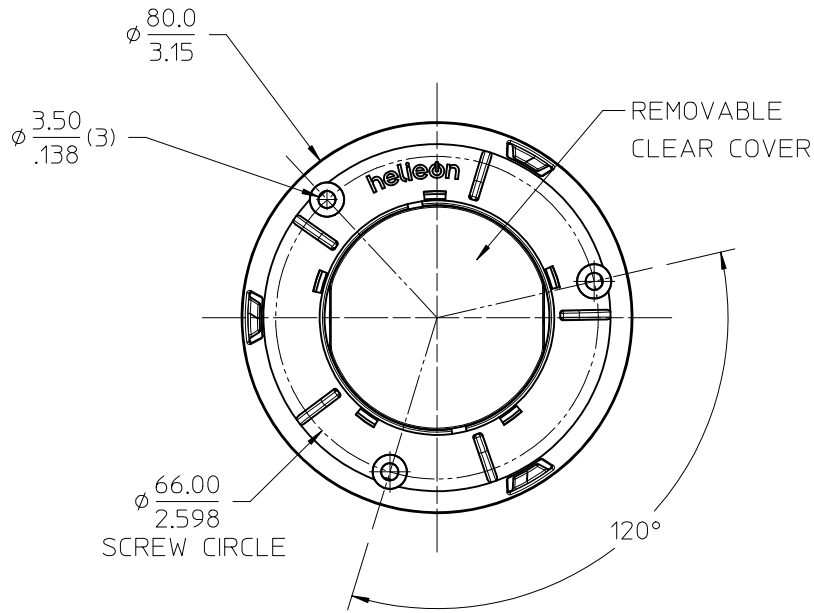


10 9 8 7 6 5 4 3 2 1



MODULE IN FREE STATE
(BEFORE INSTALLATION)

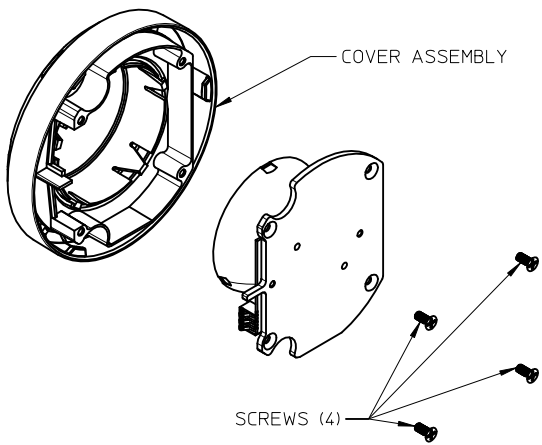
MODULE COMPRESSED
(AFTER INSTALLATION)

- 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.

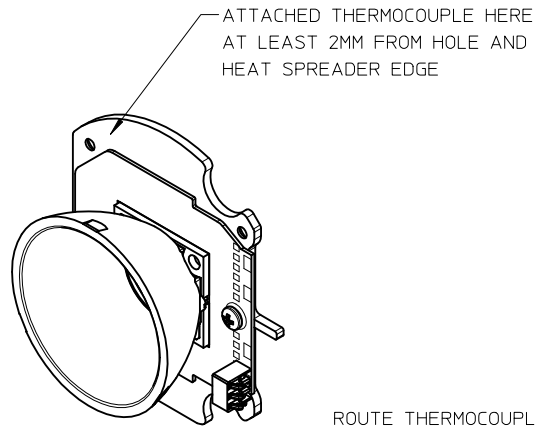
ENTER DESCRIPTION EC NO: SSL2011-0005 /DRAWN:DMCGOWAN 2010/07/26 CHKD: 2010/08/10 APPR:DMCGOWAN 2010/08/10 REV B	QUALITY SYMBOLS ▽/0 ▽/0 ▽/0	GENERAL TOLERANCES (UNLESS SPECIFIED) mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± .005 2 PLACES ± 0.13 ± .01 1 PLACE ± 0.25 ± --- ANGULAR ± 1/2°	DIMENSION STYLE 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 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. 1 OF 7
	MOLEX INCORPORATED					
	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION					

9 8 7 6 5 4 3 2 1

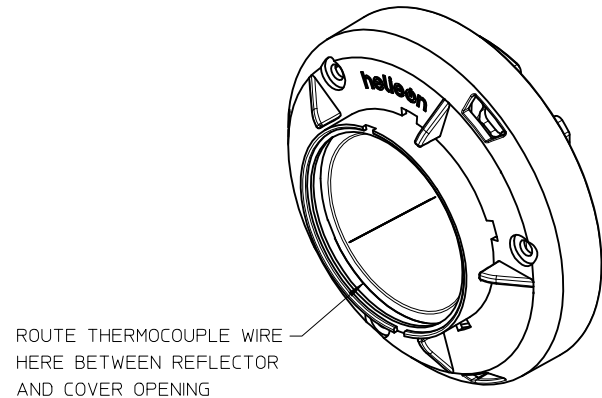
10 9 8 7 6 5 4 3 2 1



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



STEP 2:
ATTACH THERMOCOUPLE WITH
THERMALLY CONDUCTIVE EPOXY



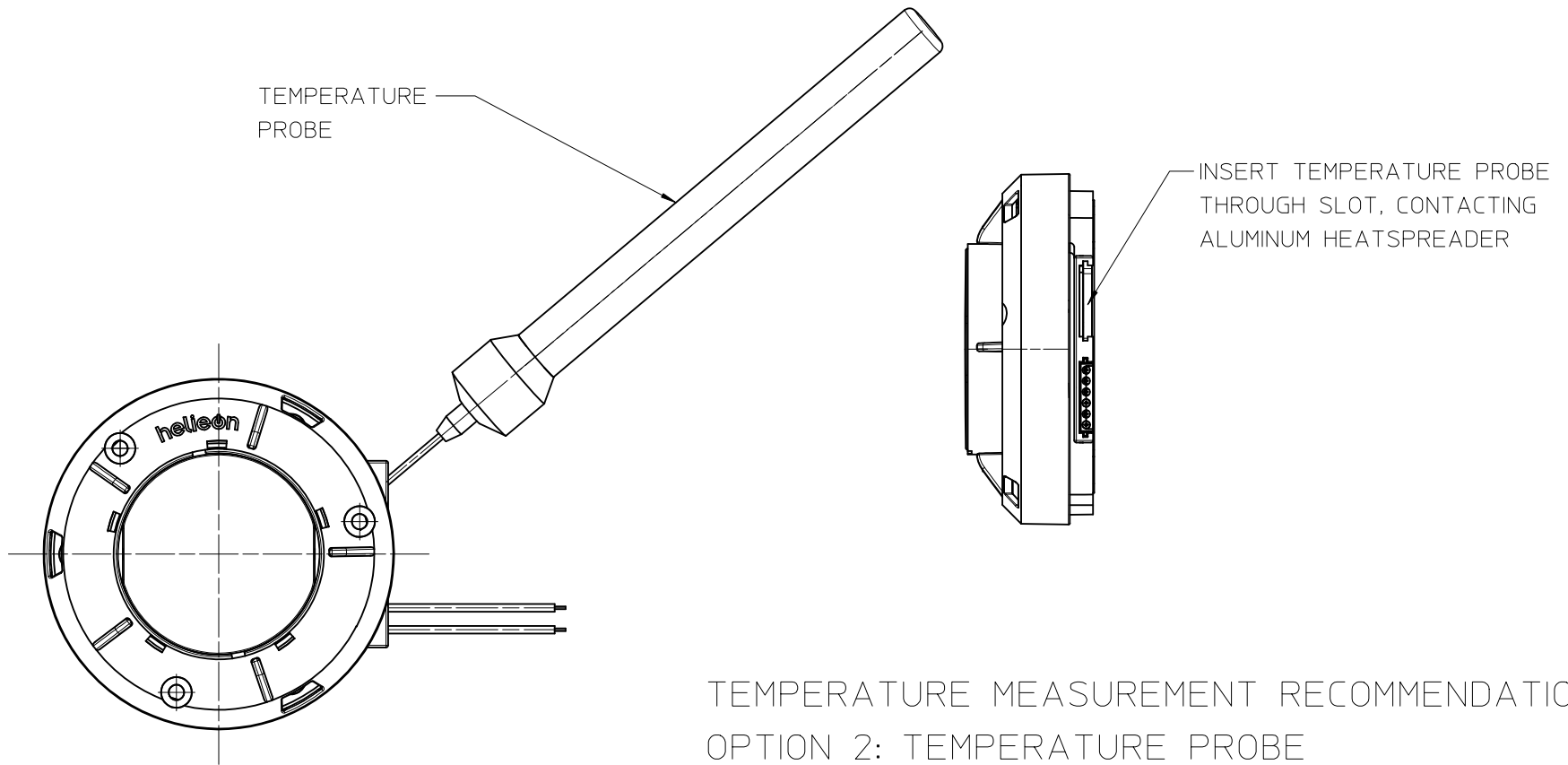
STEP 3:
ROUTE THERMOCOUPLE WIRE BETWEEN
REFLECTOR AND COVER OPENING

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 ▽/0=0 ▽/0=0 ▽/0=0	GENERAL TOLERANCES (UNLESS SPECIFIED) <table border="1"> <tr> <th></th> <th>mm</th> <th>INCH</th> </tr> <tr> <td>4 PLACES</td> <td>± ---</td> <td>± ---</td> </tr> <tr> <td>3 PLACES</td> <td>± ---</td> <td>± .005</td> </tr> <tr> <td>2 PLACES</td> <td>± 0.13</td> <td>± .01</td> </tr> <tr> <td>1 PLACE</td> <td>± 0.25</td> <td>± ---</td> </tr> </table> ANGULAR ±1/2°		mm	INCH	4 PLACES	± ---	± ---	3 PLACES	± ---	± .005	2 PLACES	± 0.13	± .01	1 PLACE	± 0.25	± ---	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
		mm	INCH																	
	4 PLACES	± ---	± ---																	
	3 PLACES	± ---	± .005																	
2 PLACES	± 0.13	± .01																		
1 PLACE	± 0.25	± ---																		
MATERIAL NO. SEE CHART	DOCUMENT NO. SD-180081-000	SHEET NO. 2 OF 7																		
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS			THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION																	
			MOLEX INCORPORATED																	

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10 9 8 7 6 5 4 3 2 1



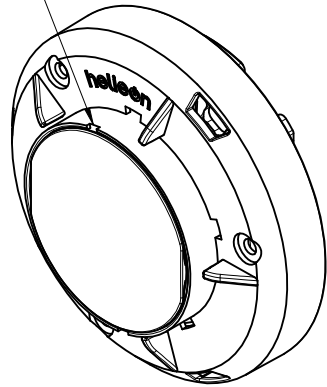
TEMPERATURE MEASUREMENT RECOMMENDATION
 OPTION 2: TEMPERATURE PROBE

ENTER DESCRIPTION EC NO: SSL2011-0005 DRAWN:DMCGOWAN 2010/07/26 CHKD: 2010/08/10 APPR:DMCGOWAN 2010/08/10 REV B	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM/IN		SCALE 1:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
	▽/0	mm	INCH	DRAWN BY MCGOWAN	DATE 2010/02/08	TITLE HELIEON 80MM MODULE SALES DRAWING	MATERIAL NO.	DOCUMENT NO. SD-180081-000	SHEET NO. 3 OF 7
	▽/0	4 PLACES ± --- ± ---	3 PLACES ± --- ± .005	CHECKED BY DACHAMMER	DATE 2010/02/22				
	▽/0	2 PLACES ± 0.13 ± .01	1 PLACE ± 0.25 ± ---	APPROVED BY DMCGOWAN	DATE 2010/03/22	MOLEX INCORPORATED			
	▽/0	ANGULAR ±1/2°		SEE CHART					
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS									

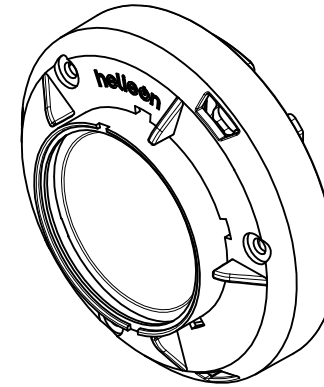
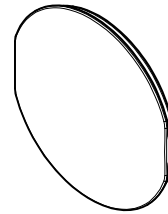
9 8 7 6 5 4 3 2 1

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)



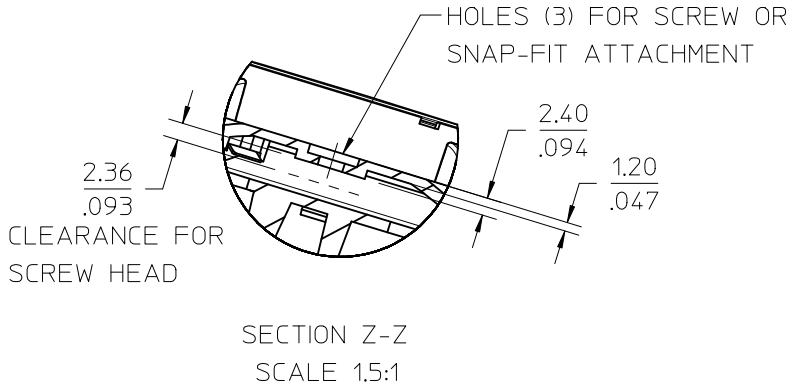
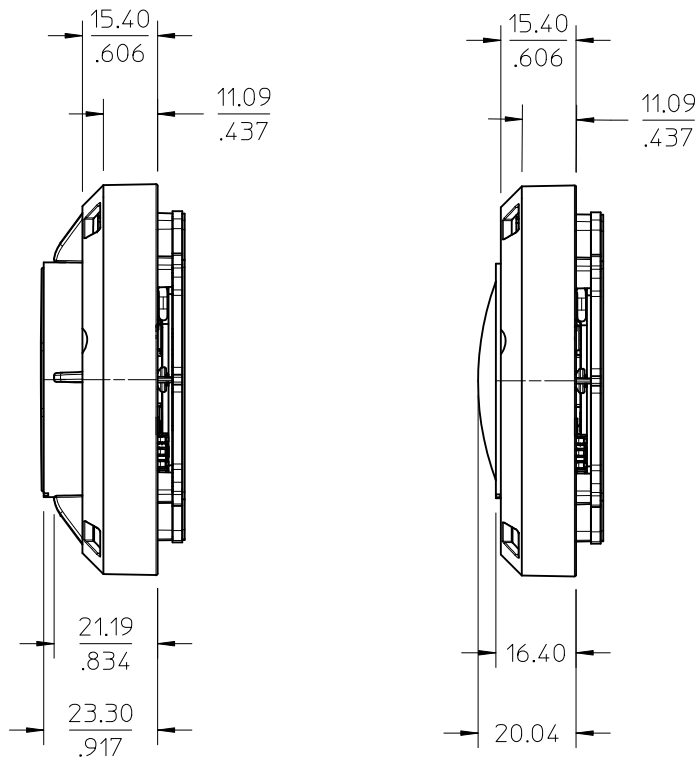
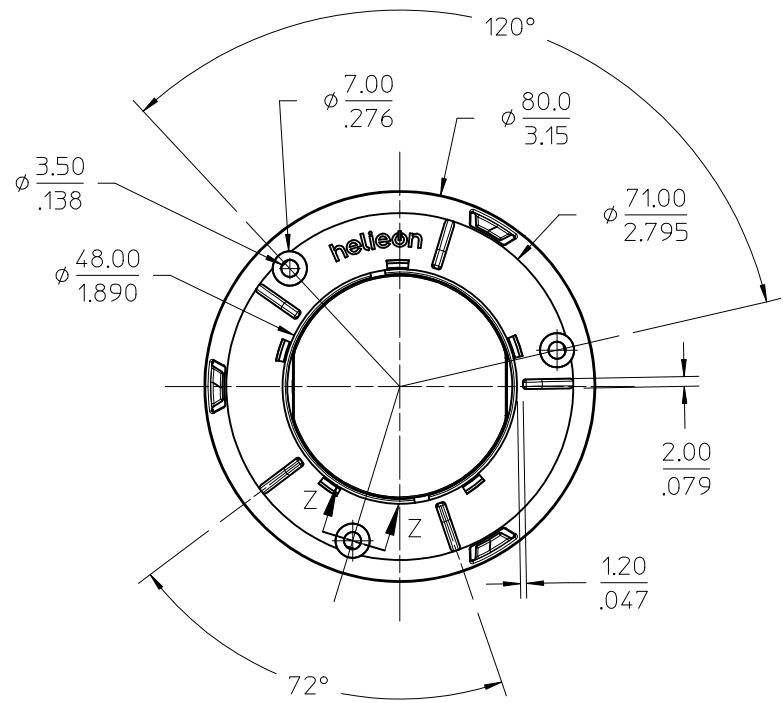
MODULE AFTER CLEAR
COVER REMOVAL

CLEAR COVER REMOVAL INSTRUCTIONS

ENTER DESCRIPTION EC NO: SSL2011-0005 DRAWN:DMCGOWAN 2010/07/26 CHKD: 2010/08/10 APPR:DMCGOWAN 2010/08/10 REV 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	MATERIAL NO. SEE CHART			
		2 PLACES	±0.13	±.01	DOCUMENT NO. SD-180081-000					
1 PLACE	±0.25	±---	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SHEET NO. 4 OF 7		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			

9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2 1

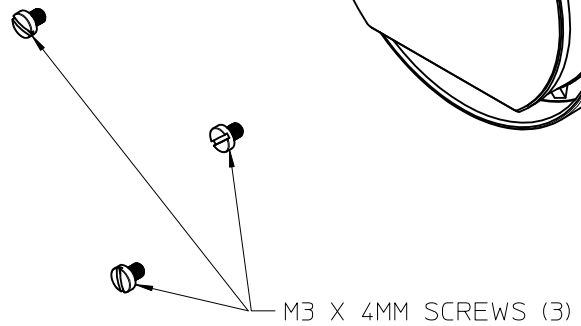
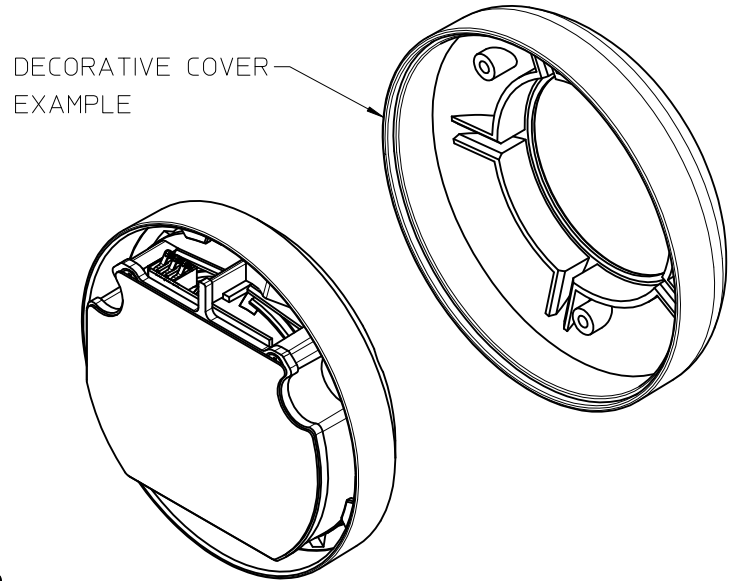
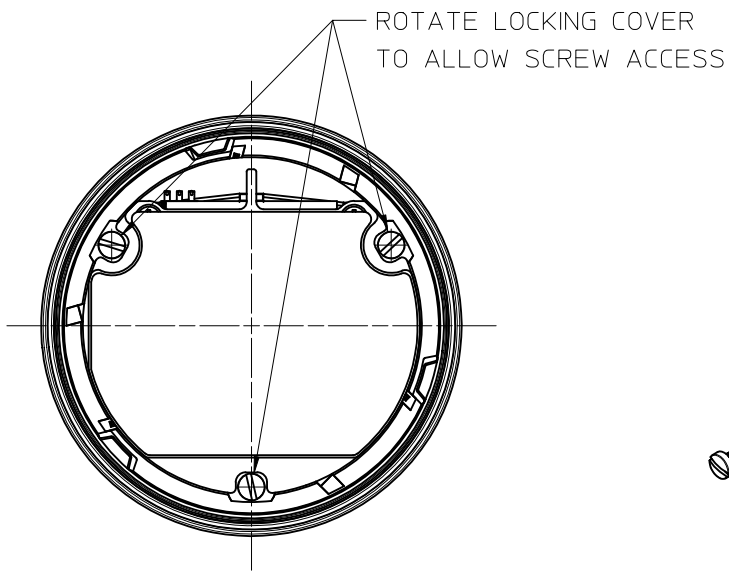


DIMENSIONS FOR DECORATIVE COVER
OR SECONDARY OPTIC ATTACHMENT

ENTER DESCRIPTION EC NO: SSL2011-0005 DRAWN:DMCGOWAN 2010/07/26 CHKD: 2010/08/10 APPR:DMCGOWAN 2010/08/10 REV 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	± .005	APPROVED BY DMCGOWAN	DATE 2010/03/22	MATERIAL NO.	DOCUMENT NO.	SHEET NO.
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		ANGULAR ±1/2°		SEE CHART	MOLEX INCORPORATED	SD-180081-000	5 OF 7	

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> <td></td> <td>mm</td> <td>INCH</td> </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
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		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	MATERIAL NO. SEE CHART	DOCUMENT NO. SD-180081-000	SHEET NO. 6 OF 7																		
			SIZE B	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION																			

9 8 7 6 5 4 3 2 1

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 ± --- ± ---	DRAWN BY MCGOWAN	DATE 2010/02/08	TITLE HELIEON 80MM MODULE SALES DRAWING					
		3 PLACES ± --- ± .005	CHECKED BY DACHAMMER	DATE 2010/02/22						
		2 PLACES ± 0.13 ± .01	APPROVED BY DMCGOWAN	DATE 2010/03/22	MATERIAL NO. SEE CHART		MOLEX INCORPORATED			SHEET NO. 7 OF 7
1 PLACE ± 0.25 ± ---	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		DOCUMENT NO. SD-180081-000		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION					