

## SPECIFICATION SHEET

**UR4L****4" Series****Square Adjustable Regressed Trim with Square Opening**

Project \_\_\_\_\_

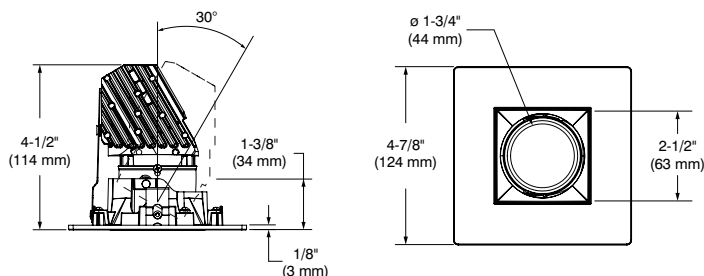
Notes \_\_\_\_\_

Fixture Type \_\_\_\_\_

Date \_\_\_\_\_



UR4L-25AN (illustrated)



## SPECIFICATIONS

## LED MODULE

**STANDARD (SOLID WHITE)**

Lumileds Luxeon CoB 1203 GEN4 (except GEN3 for 4,000K 90+ CRI).

L<sub>70</sub> @ 50,000 hours of operation. 3-Step MacAdam ellipse (3 SDCM)

Color temperatures: 2,700K - 3,000K - 3,500K - 4,000K

CRI: 80+ (only 2,700K and 3,000K), 90+ ()

Delivered Lumens: Performance 1 (10W) - 942 lumens @ 3,000K, 94 lm/W  
 Performance 2 (15W) - 1,227 lumens @ 3,000K, 82 lm/W  
 Performance 3 (24W) - 1,840 lumens @ 3,000K, 77 lm/W

Power supply (*determined by the choice of housing*): 120V, 277V or 120V/277V

Several driver models available in three performances (10W, 15W and 24W) offered in two dimming options:

ELV: 120V only    0-10V: 120V / 277V

Consult housing specification sheet for more details.

**WARM DIMMING (WD)**

LTF LED Module mimicking the halogen lamp dimming conditions by lowering color temperature from 3,050K at full intensity down to 1,800K at low-end while ensuring 90+ CRI throughout the whole process.

L<sub>70</sub> @ 50,000 hours of operation. 3-Step MacAdam ellipse (3 SDCM)

Color Temperature: 3,050K to 1,800K

CRI: 90+ (over the entire dimming range)

Delivered Lumens: Performance 1 (10W) - up to 550 lumens  
 Performance 2 (15W) - up to 725 lumens  
 Performance 3 (24W) - up to 1,050 lumens

Power supply (*determined by the choice of housing*): 120V, 277V or 120V/277V

Several driver models available in three performances (10W, 15W and 24W) offered in two dimming options:

ELV: 120V only    0-10V: 120V / 277V

Consult housing specification sheet for more details.

## CEILING CUTOUT

**ø 4-1/4" (108 mm)**

## ADJUSTABILITY

Tilt: 30°

## CERTIFICATION

- cULus **E343977** for damp locations
- Certified under California Energy Commission according to reference joint Appendix 8 (JA8-2016)

## WARRANTY

1 year limited warranty on components against manufacturing defects  
 5-year limited warranty on LED arrays and drivers

**CONTRASTE**2020-10  
Revision 6

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1009, rue du Parc Industriel  
 Lévis (Québec) G6Z 1C5 Canada  
 Tel.: 1-888-839-4624  
 Fax.: 1-877-839-7057  
 contrastlighting.com  
 info@contrastlighting.com

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# UR4L

## 4" Series

### Square Adjustable Regressed Trim with Square Opening



## SPECIFICATIONS (CONT'D)

## COMPATIBLE HOUSINGS

	Remodel Housings	New Construction Housings	IC Housings
<b>Performance 1</b> 10W  Warm Dimming not compatible	<b>IC Air Tight</b> REUR4-120D1 REUR4-120E1 REUR4-277D1 REUR4-UV1	<b>IC Air Tight</b> NWUR4-120D1 NWUR4-120E1 NWUR4-277D1 NWUR4-UV1  <b>Non-IC Air Tight Emergency Driver</b> NWUR4-120D1-EM NWUR4-120E1-EM NWUR4-277D1-EM NWUR4-UV1-EM	<b>IC Air Tight</b> ISUR4-120D1 ISUR4-120E1 ISUR4-277D1 ISUR4-UV1  <b>IC Air Tight Chicago Plenum and Polyurethane</b> ISUR4-120D1P ISUR4-120E1P ISUR4-277D1P ISUR4-UV1P
<b>Performance 2</b> 15W MAX	<b>Non-IC Air Tight</b> REUR4-120D2 REUR4-120E2 REUR4-120EB2 REUR4-2772 REUR4-277D2 REUR4-UV2	<b>Non-IC Air Tight</b> NWUR4-120D2 NWUR4-120E2 NWUR4-120EB2 NWUR4-2772 NWUR4-277D2 NWUR4-UV2  <b>Non-IC Air Tight Emergency Driver</b> NWUR4-120D2-EM NWUR4-120E2-EM NWUR4-120EB2-EM NWUR4-2772-EM NWUR4-277D2-EM NWUR4-UV2-EM	<b>IC Air Tight</b> ISUR4-120D2 ISUR4-120E2 ISUR4-120EB2 ISUR4-2772 ISUR4-277D2 ISUR4-UV2  <b>IC Air Tight Chicago Plenum</b> ISUR4-120D2P ISUR4-120E2P ISUR4-120EB2P ISUR4-2772P ISUR4-277D2P ISUR4-UV2P
<b>Performance 3</b> 24W MAX	N/A	<b>Non-IC Non-Air Tight</b> NWUR4-UV3  <b>Non-IC Non-Air Tight Emergency Driver</b> NWUR4-UV3-EM	N/A

For dimming, please visit our Web site frequently to find our suggested compatible dimmers list:  
[www.contrastlighting.com](http://www.contrastlighting.com)

Contraste suggests ordering  
**EB2 (ELV (+Value)/15W), D2 (0-10V/15W)**  
or  
**UV2 (ELV/0-10V/15W) and UV3 (ELV/0-10V/24W)**  
dimming type and performance to use with Warm Dimming

## COMPATIBLE HOUSINGS



	Remodel Housings	New Construction Housings	IC Housings
<b>Performance 1</b> 10W	<b>IC Air Tight</b> REUR4-120D1	<b>IC Air Tight</b> NWUR4-120D1	<b>IC Air Tight</b> ISUR4-120D1
<b>Performance 2</b> 15W MAX	N/A	N/A	<b>IC Air Tight</b> ISUR4-120D2

For dimming, please visit our Web site frequently to find our suggested compatible dimmers list:  
[www.contrastlighting.com](http://www.contrastlighting.com)

Contraste suggests ordering  
**EB2 (ELV (+Value)/15W), D2 (0-10V/15W)**  
or  
**UV2 (ELV/0-10V/15W)**  
dimming type and performance to use with Warm Dimming

# CONTRASTE

## SPECIFICATION SHEET

**UR4L****4" Series****Square Adjustable Regressed Trim with Square Opening**

## SPECIFICATIONS (CONT'D)

TRIM	Powder coat painted or plated aluminum injected. <b>Different finishes available:</b> White (-01), Brushed Chrome (-04BR), Matte White (-11), Brushed Nickel (-12BR), Satin Nickel (-13), Matte Black (-22) and Polar Grey (-25)								
REFLECTORS	<b>PAINTED</b> Natural Anodized Aluminum (AN) Matte White (11) Matte Black (22)								
HEAT SINK	High quality aluminum injected heat sink ensuring maximum heat dissipation.								
OPTIC SYSTEM	Optical reflectors and lenses available to customize your lighting. <b>Choice of available lenses:</b> <b>Standard (without lens)</b> <b>Clear (C)</b> <b>Frosted (F)</b> <b>Honeycomb (H):</b> the honeycomb louver reduces glare <b>Linear (L):</b> the linear lens directs the lamp beam to create a strip of light <b>Prismatic (P):</b> the prismatic lens diffuses and spreads the light in an even overall pattern <b>Solite (S):</b> the solite lens softens the light in an even overall pattern <b>Optical reflectors available:</b> Spot, Narrow Flood, Flood  <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2" style="text-align: center;">Standard</th> </tr> </thead> <tbody> <tr> <td>Spot (S)</td> <td style="text-align: center;">16°</td> </tr> <tr> <td>Narrow Flood (M)</td> <td style="text-align: center;">32°</td> </tr> <tr> <td>Flood (L)</td> <td style="text-align: center;">48°</td> </tr> </tbody> </table> <b>* Average beams shown. Consult .ies files on our Website for more details.</b>	Standard		Spot (S)	16°	Narrow Flood (M)	32°	Flood (L)	48°
Standard									
Spot (S)	16°								
Narrow Flood (M)	32°								
Flood (L)	48°								
ACCESSORIES	Goof Rings (see ordering code)								

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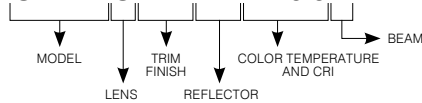
1009, rue du Parc Industriel  
Lévis (Québec) G6Z 1C5 Canada  
Tel.: 1-888-839-4624  
Fax.: 1-877-839-7057  
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## SPECIFICATION SHEET

**UR4L****4" Series****Square Adjustable Regressed Trim with Square Opening**

## CODIFICATION EXAMPLE

**UR4LC-11222790L**

**JAB** certified trim available without lens (std) only.  
Not available with Warm Dimming

*Options in red may generate a longer production lead time.*

## ORDERING CODES

MODEL	LENSES	TRIM FINISHES	REFLECTOR FINISHES	COLOR TEMPERATURE AND CRI	BEAMS
<b>UR4L</b>					
<b>UR4L</b>	Whitout lens (std)	<b>-01</b> White	<b>PAINTED</b>	<b>2780</b> 2,700K (80+ CRI)	<b>S</b> Spot (16°) <b>M</b> Narrow Flood (32°) <b>L</b> Flood (48°) <i>Not available with Warm Dimming</i>
<b>C</b>	Clear	<b>-04BR</b> Brushed Chrome	<b>AN</b> Natural Anodized Aluminum	<b>3080</b> 3,000K (80+ CRI)	
<b>F</b>	Frosted	<b>-11</b> Matte White	<b>11</b> Matte White	<b>2790</b> 2,700K (90+ CRI)	
<b>H</b>	Honeycomb	<b>-12BR</b> Brushed Nickel	<b>22</b> Matte Black	<b>3090</b> 3,000K (90+ CRI)	
<b>L</b>	Linear	<b>-22</b> Matte Black		<b>3590</b> 3,500K (90+ CRI)	
<b>P</b>	Prismatic	<b>-25</b> Polar Grey		<b>4090</b> 4,000K (90+ CRI)	
<b>S</b>	Solite	<b>-13</b> <i>Satin Nickel</i>			
		<i>(-25 finish perfectly matches with AN reflector)</i>		<b>WD90</b> Warm Dimming 3,050K to 1,800K (90+ CRI)	
				<i>Compatible with 15W and 24W drivers only (EB2, D2, UV2 and UV3)</i>	

## GOOF RINGS

Goof rings will help you fix larger than necessary or damaged ceiling cutouts.

**Code: RS4-01** (white)  
**RS4-04BR** (brushed chrome)  
**RS4-11** (matte white)  
**RS4-12BR** (brushed nickel)  
**RS4-13** (satin nickel)  
**RS4-22** (matte black)  
**RS4-25** (polar grey)

Outside diameter: 5-1/2" (140 mm) x 5-1/2" (140 mm)

Inside diameter: ø 4-1/8" (105 mm)

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 Fax.: 1-877-839-7057  
 contrastlighting.com  
 info@contrastlighting.com

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## SPECIFICATION SHEET

**UR4L****4" Series****Square Adjustable Regressed Trim with Square Opening**

## PHOTOMETRIC DATA



In order to obtain the accurate photometric data, multiply the lumens relative to your product selection by the applicable factor(s). Take note these factors also need to be implemented in the .ies files available on our website.

## WITH PERFORMANCE 1 HOUSING (10W)

	Spot (16°)		Narrow Flood (32°)		Flood (48°)	
	lm	lm/W	lm	lm/W	lm	lm/W
<b>2,700K with 80+ CRI</b>	745 lm	75 lm/W	919 lm	92 lm/W	919 lm	92 lm/W
<b>3,000K with 80+ CRI</b>	764 lm	76 lm/W	942 lm	94 lm/W	942 lm	94 lm/W

<b>2,700K with 90+ CRI</b>	619 lm	62 lm/W	764 lm	76 lm/W	764 lm	76 lm/W
<b>3,000K with 90+ CRI</b>	640 lm	64 lm/W	789 lm	79 lm/W	789 lm	79 lm/W
<b>3,500K with 90+ CRI</b>	676 lm	68 lm/W	833 lm	83 lm/W	833 lm	83 lm/W
<b>4,000K with 90+ CRI</b>	694 lm	69 lm/W	855 lm	85 lm/W	855 lm	85 lm/W
<b>Warm Dimming with 90+ CRI</b>	Not available		550 lm	55 lm/W	550 lm	55 lm/W



Performance 1 Housings Factors	
<b>XXUR-120E1</b>	0.90
<b>XXUR-120D1 or XXUR-277D1</b>	1

Lens Factors			
<b>STD</b>	1	<b>F</b>	0.68
<b>C</b>	0.97	<b>H</b>	0.54

Reflector Factors			
<b>11</b>	1	<b>AN</b>	0.99
<b>22</b>	0.97		

## WITH PERFORMANCE 2 HOUSING (15W)

	Spot (16°)		Narrow Flood (32°)		Flood (48°)	
	lm	lm/W	lm	lm/W	lm	lm/W
<b>2,700K with 80+ CRI</b>	971 lm	65 lm/W	1,198 lm	80 lm/W	1,198 lm	80 lm/W
<b>3,000K with 80+ CRI</b>	995 lm	66 lm/W	1,227 lm	82 lm/W	1,227 lm	82 lm/W

<b>2,700K with 90+ CRI</b>	807 lm	54 lm/W	995 lm	66 lm/W	995 lm	66 lm/W
<b>3,000K with 90+ CRI</b>	834 lm	56 lm/W	1,028 lm	69 lm/W	1,028 lm	69 lm/W
<b>3,500K with 90+ CRI</b>	880 lm	59 lm/W	1,085 lm	72 lm/W	1,085 lm	72 lm/W
<b>4,000K with 90+ CRI</b>	904 lm	60 lm/W	1,115 lm	74 lm/W	1,115 lm	74 lm/W
<b>Warm Dimming with 90+ CRI</b>	Not available		725 lm	48 lm/W	725 lm	48 lm/W



Performance 2 Housings Factors	
<b>XXUR-120E2</b>	0.95
<b>XXUR-120EB2, XXUR-120D2, XXUR-2772 or XXUR-277D2</b>	1

Lens Factors			
<b>STD</b>	1	<b>F</b>	0.68
<b>C</b>	0.97	<b>H</b>	0.54

Reflector Factors			
<b>11</b>	1	<b>AN</b>	0.99
<b>22</b>	0.97		

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Fax.: 1-877-839-7057  
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**UR4L****4" Series****Square Adjustable Regressed Trim with Square Opening**

WITH PERFORMANCE 3 HOUSING (24W)

	Spot (16°)		Narrow Flood (32°)		Flood (48°)	
	lm	lm/W	lm	lm/W	lm	lm/W
<b>2,700K with 80+ CRI</b>	1,456	61	1,797	75	1,797	75
<b>3,000K with 80+ CRI</b>	1,492	62	1,840	77	1,840	77

<b>2,700K with 90+ CRI</b>	1,210	50	1,492	62	1,492	62
<b>3,000K with 90+ CRI</b>	1,251	52	1,542	64	1,542	64
<b>3,500K with 90+ CRI</b>	1,320	55	1,628	68	1,628	68
<b>4,000K with 90+ CRI</b>	1,356	57	1,672	70	1,672	70
<b>Warm Dimming with 90+ CRI</b>	Not available		1,050	44	1,050	44

Lens Factors			
<b>STD</b>	1	<b>F</b>	0.68
<b>C</b>	0.97	<b>H</b>	0.54

Reflector Factors			
<b>11</b>	1	<b>AN</b>	0.99
<b>22</b>	0.97		

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# UR4L

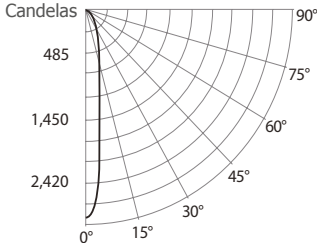
## 4" Series

### Square Adjustable Regressed Trim with Square Opening



#### 3,000K, 90+ CRI, Spot, Performance 1

##### CANDLEPOWER DISTRIBUTION



##### LIGHT CONE

Distance	FC	DIA
06'	79.1	1.7'
08'	44.5	2.3'
10'	28.5	2.8'
12'	19.8	3.4'
14'	14.5	4.0'
16'	11.1	4.5'

Beam: 16.1°  
Beam Edge defined as 50% of Maximum Nadir Candle-power.

##### LUMINAIRE

Performance 1 LED	3,000K Spot	
CBCP / Lumens	2,849	/ 640.5
Watts	120V	277V
	10W	10.5W
Operating AMPS	0.08A	0.038A
Lumen Maintenance	L70 @ 50,000 Hrs	
CRI	90+	
Lumens/Watt	64.1	
Spacing Criteria	0.28	

##### COEFFICIENT OF UTILIZATION - %

Ceiling Reflect %	80		50		30		
Wall Reflect %	50	30	50	30	50	30	
RCR	0	119	119	111	111	106	106
	2	104	100	99	96	96	94
	4	92	87	89	85	87	84
	6	83	78	81	77	80	76
	8	76	71	75	70	74	69
	10	70	65	69	64	68	64

##### Zonal Cavity Method

Effective Floor Cavity Reflectance 20%

##### ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	490.6	76.6%
0-40	591.3	92.3%
0-60	620.4	96.9%
60-90	20.1	3.1%
0-90	640.5	100%

##### MULTIPLE UNIT DATA - (RCR 2)

SPACING ON CENTER	INITIAL FOOTCANDLES	WATTS/SQ. FT.
5'	31	0.44
6'	24	0.34
7'	17	0.25
8'	12	0.17
9'	12	0.17

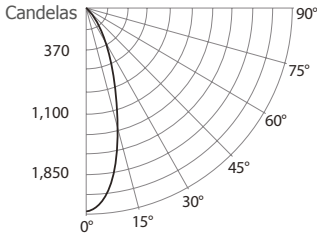
38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflectance factor 80%/50%/30%

##### CANDELAS DISTRIBUTION

DEGREES/VERTICAL	CANDELAS	DEGREES/VERTICAL	CANDELAS
0	2,849	45	24
5	2,165	55	12
10	1,040	65	9
15	632	75	8
20	453	85	4
25	309	90	0
30	218		

#### 3,000K, 90+ CRI, Narrow Flood, Performance 1

##### CANDLEPOWER DISTRIBUTION



##### LIGHT CONE

Distance	FC	DIA
06'	60.4	3.5'
08'	33.9	4.7'
10'	21.8	5.9'
12'	15.1	7.1'
14'	11.1	8.3'
16'	8.5	9.5'

Beam: 32.9°  
Beam Edge defined as 50% of Maximum Nadir Candle-power.

##### LUMINAIRE

Performance 1 LED	3,000K Narrow Flood	
CBCP / Lumens	2,175	/ 789.4
Watts	120V	277V
	10W	10.5W
Operating AMPS	0.08A	0.038A
Lumen Maintenance	L70 @ 50,000 Hrs	
CRI	90+	
Lumens/Watt	78.9	
Spacing Criteria	0.56	

##### COEFFICIENT OF UTILIZATION - %

Ceiling Reflect %	80		50		30		
Wall Reflect %	50	30	50	30	50	30	
RCR	0	119	119	111	111	106	106
	2	106	103	102	99	99	97
	4	96	92	93	90	91	88
	6	88	83	86	82	85	81
	8	81	76	80	76	79	75
	10	75	71	74	70	73	70

##### Zonal Cavity Method

Effective Floor Cavity Reflectance 20%

##### ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	728.5	92.3%
0-40	783.3	99.2%
0-60	789.4	100%
60-90	0	0%
0-90	789.4	100%

##### MULTIPLE UNIT DATA - (RCR 2)

SPACING ON CENTER	INITIAL FOOTCANDLES	WATTS/SQ. FT.
5'	29	0.33
6'	30	0.34
7'	22	0.25
8'	15	0.17
9'	15	0.17

38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflectance factor 80%/50%/30%

##### CANDELAS DISTRIBUTION

DEGREES/VERTICAL	CANDELAS
0	2,175
15	1,217
30	233
45	4
60	0
75	0
90	0

# UR4L

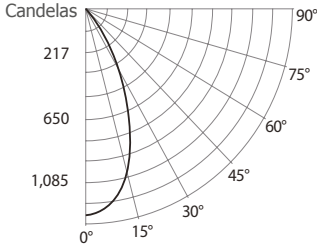
## 4" Series

### Square Adjustable Regressed Trim with Square Opening



#### 3,000K, 90+ CRI, Flood, Performance 1

##### CANDLEPOWER DISTRIBUTION



##### LIGHT CONE

Distance	FC	DIA
06'	34.8	5.4'
08'	19.6	7.2'
10'	12.5	9.0'
12'	8.7	10.8'
14'	6.4	12.6'
16'	4.9	14.4'

Beam: 48.4°  
Beam Edge defined as 50% of Maximum Nadir Candle-power.

##### LUMINAIRE

Performance 1 LED	3,000K Flood	
CBCP / Lumens	1,252	789
Watts	120V	277V
	10W	10.5W
Operating AMPS	0.08A	0.038A
Lumen Maintenance	L70 @ 50,000 Hrs	
CRI	90+	
Lumens/Watt	78.9	
Spacing Criteria	0.82	

##### COEFFICIENT OF UTILIZATION - %

Ceiling Reflect %	80			50			30		
Wall Reflect %	50	30	50	30	50	30	50	30	
RCR 0	119	119	111	111	106	106	106	106	
2	105	101	100	97	97	94	94	94	
4	93	88	89	85	88	84	84	84	
6	83	77	81	76	79	75	75	75	
8	75	69	73	68	72	68	68	68	
10	68	62	67	62	66	62	62	62	

Zonal Cavity Method  
Effective Floor Cavity Reflectance 20%

##### ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	649.6	82.3%
0-40	761.1	96.5%
0-60	788.1	99.9%
60-90	1	0.1%
0-90	789	100%

##### MULTIPLE UNIT DATA - (RCR 2)

SPACING ON CENTER	INITIAL FOOTCANDLES	WATTS/SQ. FT.
5'	29	0.33
6'	29	0.34
7'	22	0.25
8'	15	0.17
9'	15	0.17

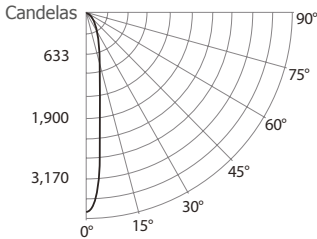
38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflectance factor 80%/50%/30%

##### CANDELAS DISTRIBUTION

DEGREES/VERTICAL	CANDELAS
0	1,252
15	990
30	346
45	28
60	2
75	0
90	0

#### 3,000K, 90+ CRI, Spot, Performance 2

##### CANDLEPOWER DISTRIBUTION



##### LIGHT CONE

Distance	FC	DIA
06'	103.1	1.7'
08'	57.9	2.3'
10'	37.1	2.8'
12'	25.8	3.4'
14'	18.9	4.0'
16'	14.5	4.5'

Beam: 16.1°  
Beam Edge defined as 50% of Maximum Nadir Candle-power.

##### LUMINAIRE

Performance 2 LED	3,000K Spot	
CBCP / Lumens	3,710	832.9
Watts	120V	277V
	15W	15.5W
Operating AMPS	0.12A	0.055A
Lumen Maintenance	L70 @ 50,000 Hrs	
CRI	90+	
Lumens/Watt	55.5	
Spacing Criteria	0.28	

##### COEFFICIENT OF UTILIZATION - %

Ceiling Reflect %	80			50			30		
Wall Reflect %	50	30	50	30	50	30	50	30	
RCR 0	119	119	111	111	106	106	106	106	
2	104	100	99	96	96	94	94	94	
4	92	87	89	85	87	84	84	84	
6	83	78	81	77	80	76	76	76	
8	76	71	75	70	74	70	70	70	
10	70	65	69	65	68	64	64	64	

Zonal Cavity Method  
Effective Floor Cavity Reflectance 20%

##### ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	638.9	76.7%
0-40	770.5	92.5%
0-60	807.5	96.9%
60-90	25.4	3.1%
0-90	832.9	100%

##### MULTIPLE UNIT DATA - (RCR 2)

SPACING ON CENTER	INITIAL FOOTCANDLES	WATTS/SQ. FT.
5'	30	0.50
6'	31	0.51
7'	23	0.37
8'	16	0.26
9'	16	0.26

38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflectance factor 80%/50%/30%

##### CANDELAS DISTRIBUTION

DEGREES/VERTICAL	CANDELAS	DEGREES/VERTICAL	CANDELAS
0	3,710	45	30
5	2,820	55	15
10	1,354	65	11
15	823	75	10
20	590	85	5
25	402	90	0
30	284		



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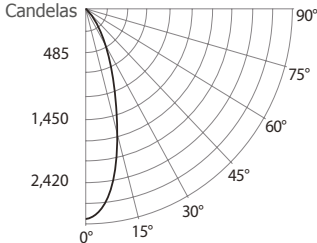
## 4" Series

### Square Adjustable Regressed Trim with Square Opening



#### 3,000K, 90+ CRI, Narrow Flood, Performance 2

##### CANDLEPOWER DISTRIBUTION



##### LIGHT CONE

Distance	FC	DIA
06'	78.7	3.5'
08'	44.3	4.7'
10'	28.3	5.9'
12'	19.7	7.1'
14'	14.5	8.3'
16'	11.1	9.5'

Beam: 33°  
Beam Edge defined as 50% of Maximum Nadir Candle-power.

##### LUMINAIRE

Performance 2 LED	3,000K Narrow Flood	
CBCP / Lumens	2,833	1,028.1
Watts	120V	277V
	15W	15.5W
Operating AMPS	0.12A	0.055A
Lumen Maintenance	L70 @ 50,000 Hrs	
CRI	90+	
Lumens/Watt	68.5	
Spacing Criteria	0.56	

##### COEFFICIENT OF UTILIZATION - %

Ceiling Reflect %	80			50			30		
Wall Reflect %	50	30	50	30	50	30	50	30	
RCR 0	119	119	111	111	106	106	106	106	
2	106	103	102	99	99	97	99	97	
4	96	92	93	90	91	88	91	88	
6	88	83	86	82	85	81	85	81	
8	81	76	80	76	79	75	79	75	
10	75	71	74	70	73	70	73	70	

Zonal Cavity Method  
Effective Floor Cavity Reflectance 20%

##### ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	948.7	92.3%
0-40	1,020.0	99.2%
0-60	1,028.1	100%
60-90	0	0%
0-90	1,028.1	100%

##### MULTIPLE UNIT DATA - (RCR 2)

SPACING ON CENTER	INITIAL FOOTCANDLES	WATTS/SQ. FT.
5'	32	0.42
6'	28	0.36
7'	29	0.37
8'	20	0.26
9'	20	0.26

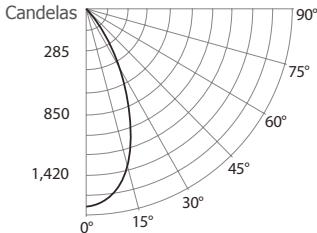
38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflectance factor 80%/50%/30%

##### CANDELAS DISTRIBUTION

DEGREES/VERTICAL	CANDELAS
0	2,833
15	1,585
30	303
45	6
60	0
75	0
90	0

#### 3,000K, 90+ CRI, Flood, Performance 2

##### CANDLEPOWER DISTRIBUTION



##### LIGHT CONE

Distance	FC	DIA
06'	45.4	5.4'
08'	25.6	7.2'
10'	16.4	9.0'
12'	11.4	10.8'
14'	8.3	12.6'
16'	6.4	14.4'

Beam: 48.4°  
Beam Edge defined as 50% of Maximum Nadir Candle-power.

##### LUMINAIRE

Performance 2 LED	3,000K Flood	
CBCP / Lumens	1,635	1,031.4
Watts	120V	277V
	15W	15.5W
Operating AMPS	0.12A	0.055A
Lumen Maintenance	L70 @ 50,000 Hrs	
CRI	90+	
Lumens/Watt	68.8	
Spacing Criteria	0.82	

##### COEFFICIENT OF UTILIZATION - %

Ceiling Reflect %	80			50			30		
Wall Reflect %	50	30	50	30	50	30	50	30	
RCR 0	119	119	111	111	106	106	106	106	
2	105	101	100	97	97	94	97	94	
4	93	88	89	85	87	84	87	84	
6	83	77	81	76	79	75	79	75	
8	75	69	73	68	72	68	72	68	
10	68	62	66	62	66	61	66	61	

Zonal Cavity Method  
Effective Floor Cavity Reflectance 20%

##### ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	848.6	82.3%
0-40	994.4	96.4%
0-60	1,029.7	99.8%
60-90	1.8	0.2%
0-90	1,031.4	100%

##### MULTIPLE UNIT DATA - (RCR 2)

SPACING ON CENTER	INITIAL FOOTCANDLES	WATTS/SQ. FT.
5'	31	0.42
6'	28	0.36
7'	28	0.37
8'	20	0.26
9'	20	0.26

38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflectance factor 80%/50%/30%

##### CANDELAS DISTRIBUTION

DEGREES/VERTICAL	CANDELAS
0	1,635
15	1,294
30	451
45	37
60	3
75	0
90	0

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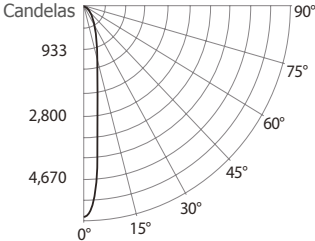
## 4" Series

### Square Adjustable Regressed Trim with Square Opening



#### 3,000K, 90+ CRI, Spot, Performance 3

##### CANDLEPOWER DISTRIBUTION



##### LIGHT CONE

Distance	FC	DIA
06'	154.6	1.7'
08'	86.9	2.3'
10'	55.7	2.8'
12'	38.6	3.4'
14'	28.4	4.0'
16'	21.7	4.5'

Beam: 16.1°  
Beam Edge defined as 50% of Maximum Nadir Candle-power.

##### LUMINAIRE

Performance 3 LED	3,000K Spot	
CBCP / Lumens	5,565	/ 1,249.4
Watts	120V	277V
	24W	24.5W
Operating AMPS	0.20A	0.088A
Lumen Maintenance	L70 @ 50,000 Hrs	
CRI	90+	
Lumens/Watt	52.1	
Spacing Criteria	0.28	

##### COEFFICIENT OF UTILIZATION - %

Ceiling Reflect %	80			50			30			
Wall Reflect %	50	30	50	30	50	30	50	30	50	30
RCR	0	119	119	111	111	106	106	106	106	106
	2	104	100	99	96	96	96	94	94	94
	4	92	87	89	85	87	84	84	84	84
	6	83	78	81	77	80	76	76	76	76
	8	76	71	75	70	74	70	70	70	70
	10	70	65	69	65	68	64	64	64	64

##### Zonal Cavity Method

Effective Floor Cavity Reflectance 20%

##### ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	958.3	76.7%
0-40	1,155.8	92.5%
0-60	1,211.3	96.9%
60-90	38.1	3.1%
0-90	1,249.4	100%

##### MULTIPLE UNIT DATA - (RCR 2)

SPACING ON CENTER	INITIAL FOOTCANDLES	WATTS/SQ. FT.
5'	30	0.53
6'	33	0.58
7'	28	0.50
8'	24	0.42
9'	24	0.42

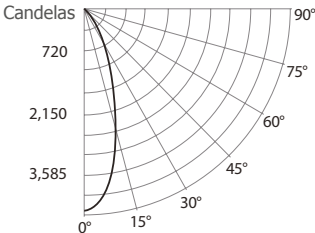
38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflectance factor 80%/50%/30%

##### CANDELAS DISTRIBUTION

DEGREES/VERTICAL	CANDELAS	DEGREES/VERTICAL	CANDELAS
0	5,565	45	45
5	4,230	55	23
10	2,031	65	16
15	1,234	75	15
20	885	85	8
25	603	90	0
30	426		

#### 3,000K, 90+ CRI, Narrow Flood, Performance 3

##### CANDLEPOWER DISTRIBUTION



##### LIGHT CONE

Distance	FC	DIA
06'	118.0	3.5'
08'	66.4	4.7'
10'	42.5	5.9'
12'	29.5	7.1'
14'	21.7	8.3'
16'	16.6	9.5'

Beam: 33°  
Beam Edge defined as 50% of Maximum Nadir Candle-power.

##### LUMINAIRE

Performance 3 LED	3,000K Narrow Flood	
CBCP / Lumens	4,249	/ 1,542.2
Watts	120V	277V
	24W	24.5W
Operating AMPS	0.20A	0.088A
Lumen Maintenance	L70 @ 50,000 Hrs	
CRI	90+	
Lumens/Watt	64.3	
Spacing Criteria	0.56	

##### COEFFICIENT OF UTILIZATION - %

Ceiling Reflect %	80			50			30			
Wall Reflect %	50	30	50	30	50	30	50	30	50	30
RCR	0	119	119	111	111	106	106	106	106	106
	2	106	103	102	99	99	97	97	97	97
	4	96	92	93	90	91	88	88	88	88
	6	88	83	86	82	85	81	81	81	81
	8	81	76	80	76	79	75	75	75	75
	10	75	71	74	70	73	70	70	70	70

##### Zonal Cavity Method

Effective Floor Cavity Reflectance 20%

##### ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	1,423.1	92.3%
0-40	1,530.1	99.2%
0-60	1,542.2	100%
60-90	0	0%
0-90	1,542.2	100%

##### MULTIPLE UNIT DATA - (RCR 2)

SPACING ON CENTER	INITIAL FOOTCANDLES	WATTS/SQ. FT.
5'	29	0.40
6'	33	0.47
7'	29	0.40
8'	30	0.42
9'	30	0.42

38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflectance factor 80%/50%/30%

##### CANDELAS DISTRIBUTION

DEGREES/VERTICAL	CANDELAS
0	4,249
15	2,378
30	455
45	10
60	0
75	0
90	0

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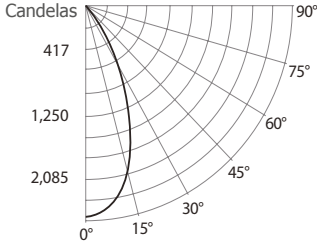
4" Series

## Square Adjustable Regressed Trim with Square Opening



### 3,000K, 90+ CRI, Flood, Performance 3

#### CANDLEPOWER DISTRIBUTION



#### LIGHT CONE

Distance	FC	DIA
06'	68.1	5.4'
08'	38.3	7.2'
10'	24.5	9.0'
12'	17.0	10.8'
14'	12.5	12.6'
16'	9.6	14.4'

Beam: 48.4°  
Beam Edge defined as 50% of Maximum Nadir Candle-power.

#### LUMINAIRE

Performance 3 LED	3,000K Flood	
<b>CBCP / Lumens</b>	2,453	/ 1,547.2
<b>Watts</b>	120V	277V
	24W	24.5W
<b>Operating AMPS</b>	0.20A	0.088A
<b>Lumen Maintenance</b>	L70 @ 50,000 Hrs	
<b>CRI</b>	90+	
<b>Lumens/Watt</b>	64.5	
<b>Spacing Criteria</b>	0.82	

#### COEFFICIENT OF UTILIZATION - %

Ceiling Reflect %	80		50		30		
Wall Reflect %	50	30	50	30	50	30	
<b>RCR</b>	0	119	119	111	111	106	106
	2	105	101	100	97	97	94
	4	93	88	89	85	87	84
	6	83	77	81	76	79	75
	8	75	69	73	68	72	68
	10	68	62	66	62	66	61

#### Zonal Cavity Method

Effective Floor Cavity Reflectance 20%

#### ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	1,272.8	82.3%
0-40	1,491.6	96.4%
0-60	1,544.5	99.8%
60-90	2.6	0.2%
0-90	1,547.2	100%

#### MULTIPLE UNIT DATA - (RCR 2)

SPACING ON CENTER	INITIAL FOOTCANDLES	WATTS/SQ. FT.
5'	28	0.40
6'	33	0.47
7'	28	0.47
8'	29	0.42
9'	29	0.42

38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflectance factor 80%/50%/30%

#### CANDELAS DISTRIBUTION

DEGREES/VERTICAL	CANDELAS
0	2,453
15	1,941
30	677
45	55
60	5
75	0
90	0