X Series

V031424

2" Square Downlight

2" Downlight delivers high quality light with field changeable optics

Precision Lock Collar eliminates overcutting and ensures flush installation

Architectural Trims are wet painted for a rich, matte finish

Integrated Drivers provide smooth dimming, ease of installation and serviceability

INSTALLATION

Ceiling Thickness

New Construction: $^1/_2$" up to 1 $^1/_4$"

Remodel: $^5/_8$" up to 1 $^1/_4$"

Ceiling Material

Drywall, Millwork

TRIMS

Style

Standard, Wall Wash, Pinhole, Micro Flange, Flangeless, Decorative

Finish

White, Black, Bronze, Clear Diffuse, Warm Diffuse

LIGHT OUTPUT & DISTRIBUTION

Module

Downlight

Lumens (Power)

500 lm (9.5W), 750 lm (9.5W), 1000 lm (12.5W), 1250 lm (14.3W), 1500 lm (14.3W)

Color Quality

93 CRI, 2-step SDCM

Color Temperature

2700K   3000K   3500K

4000K   Warm Dim (3000K–1800K)

Tunable White (4000K–1800K)

Tunable White (6500K–2700K)

Beam Spread

Ultra Narrow Spot (10°)

Narrow Spot (20°)

Spot (30°)

Flood (40°)

Wide Flood (50°)

Linear Spread (50°x30°)

POWER & CONTROLS

Input Voltage

120 / 277V

Dimming

0-10V (1%), TRIAC/ELV (1%), DALI-2 (0.1%)

RATINGS & CERTIFICATIONS

IC Insulation Contact Rated (New Construction Only; IC for roll, batt, loose fill and spray foam)

ASTM E283 Certified Air Tight

Chicago Plenum

UL Listed for Wet Location (Flanged Trims Only)

RoHS Compliant

NSF Listed (White and Black Finish Only)

WARRANTY

5 year limited warranty; 50,000 hours

JA8 TITLE 24   ENERGY STAR   UL CERTIFIED US-CA   Declare.   NSF   DARKSKY APPROVED Reduces light pollution Certified by DarkSky.org

dmf

PRODUCT BUILDER

HOUSING

PRODUCT CODE		INSTALLATION		SHAPE	
X2	2" Housing	NC	New Construction	S	Square
		CP	Chicago Plenum		
		RM	Remodel [1]		

[1] Non-IC installation only; Flanged trims only; Not available with DALI-2 dimming; Not available for wood ceiling

MODULE

PRODUCT CODE		LUMENS		CRI		CCT[2]		BEAM SPREAD		DIMMING	
XMD	Downlight	05	500 lm [3]	9	93+ CRI	27	2700K	UN	Ultra Narrow Spot (10°) [6]	O	0-10V
		07	750 lm			30	3000K	NS	Narrow Spot (20°) [7]	T	TRIAC/ELV
		10	1000 lm			35	3500K	SP	Spot (30°)	D	DALI-2 [8]
		12	1250 lm			40	4000K	FL	Flood (40°)		
		15	1500 lm			3W	Warm Dim (3000K - 1800K) [4]	WF	Wide Flood (50°)		
						T1	Tunable White (4000K - 1800K) [5]	LS	Linear Spread (50°x30°)		
						T2	Tunable White (6500K - 2700K) [5]				

[2] DarkSky approved is only applicable to CCT options less than or equal to 3000K and not compatible with decorative trims

[3] Only available with UN or UH beam spread

[4] Only available in 1000 lm; Not available in Narrow Spot beam spread

[5] Only available in 1000 lm, DALI-2 dimming

[6] Only available in 500 lm, not available as an optical accessory

[7] Not available in Warm Dim

[8] Only available in 1000 lm with Tunable White CCT, 1000 lm Warm Dim or 1250 lm with static CCT

TRIM

PRODUCT CODE		FINISH		OPTION	
X2TSDS	2" Standard Trim	WH	White	[Blank]	None
X2TSDW	2" Wall Wash Trim [9]	BK	Black	MF	Micro Flange [10]
X2TSDP	2" Pinhole Trim [10,11]	BZ	Bronze	FL	Flangeless [10,12]
		CW	Clear Diffuse, White Flange	DO	Decorative: Open [13]
		WW	Warm Diffuse, White Flange	DH	Decorative: Float [13]

[9] Recommended with Wide Flood beam spread

[10] Not available in Clear or Warm Diffuse finish

[11] Not available in Micro flange

[12] Requires Flangeless Mud or Wood Kit in New Construction housings; Not compatible with Remodel Housing

[13] Only available in 750 lm, Standard style, White finish
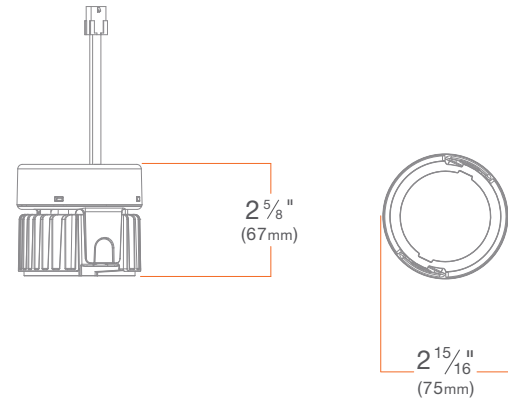
PRODUCT BUILDER

OPTICS

XDXNS	Narrow Spot (20°) Optic
XDXSP	Spot (30°) Optic
XDXFL	Flood (40°) Optic
XDXWF	Wide Flood (50°) Optic
XDXLS	Linear Spread (50°x30°) Optic
XDXOP	Bundled Downlight Optics Kit *(Includes Narrow Spot, Spot, Flood, Wide Flood and Linear Spread)*

ACCESSORIES

X2KSMUD	Flangeless Mud Kit *(Required for New Construction installation of Flangeless Trim in drywall ceiling)*
X2KSWOOD	Wood Kit *(Required for New Construction installation of all trims in wood ceiling)*
X2KSTEMPLATE	Router Template *(Recommended for routing 3 3/16" [81mm] cutout in wood ceiling)*

MODULE

2 5/8 " (67mm)

2 15/16 " (75mm)

PERFORMANCE SUMMARY

	STATIC CCT	WARM DIM	TUNABLE WHITE
CCT	2700K, 3000K, 3500K, 4000K	3000K - 1800K	4000K - 1800K; 6500K - 2700K
LUMENS (POWER)	500 lm (9.5W), 750 lm (9.5W), 1000 lm (12.5W), 1250 lm (14.3W), 1500 lm (14.3W)	1000 lm (12.0W)	1000 lm (14.3W)
EFFICACY	53 lm/W, 79 lm/W, 80 lm/W, 87 lm/W, 105 lm/W	83 lm/W	70 lm/W
COLOR QUALITY	93 CRI [1], 2-step SDCM	93 CRI [1], 3-step SDCM	93 CRI [1], 3-step SDCM
BEAM SPREAD	Ultra Narrow Spot (10°), Narrow Spot (20°), Spot (30°), Flood (40°), Wide Flood (50°), Linear Spread (50° x 30°)	Spot (30°), Flood (40°), Wide Flood (50°), Linear Spread (50° x 30°)	Narrow Spot (20°), Spot (30°), Flood (40°), Wide Flood (50°), Linear Spread (50° x 30°)
DIMMING	0-10V, TRIAC/ELV, DALI-2	0-10V, TRIAC/ELV, DALI-2	DALI-2
LED CHIP	Cree	Bridgelux	Bridgelux
LISTINGS	ENERGY STAR® Qualified [2], California Title 24 2019-2022 JA8-E compliant, UL Listed for Wet Location, UL Certified US·CA, Declare, RoHS compliant, DALI-2 Compliant, NSF/ANSI 2 Listed [3], Dark Sky Compliant [4]		

[1] Tested in accordance to IESNA LM-79-2008
[2] Refer to ENERGY STAR Certified light fixtures database

[3] In accordance to NSF/ANSI 2 for Splash Zone having designated trim finishes

[4] Only applicable to CCT options less than or equal to 3000K and not compatible with decorative trims

ADDITIONAL

INPUT VOLTAGE: 120/277V, 50/60Hz

MAX INPUT CURRENT (120V): 0.13 amps

MAX INPUT CURRENT (277V): 0.06 amps

CONNECTOR: 6-pin Molex

POWER FACTOR: Greater than 0.9

TOTAL HARMONIC DISTORTION: Less than 20%

AMBIENT OPERATING TEMPERATURE: -20°C to 40°C

WARRANTY: 5 year limited warranty; 50,000 hours at 70% lumen maintenance

TRIMS

SUMMARY

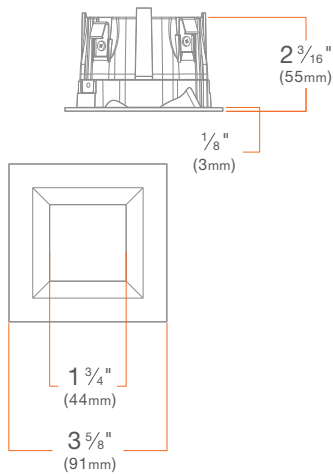**CONSTRUCTION:** Die-cast aluminum

FINISH: Wet paint

DECORATIVE: Acrylic diffuser

INSTALLATION: Precision Lock Collar included with Flanged or Micro Flange Trim and Flangeless Mud or Wood Kit
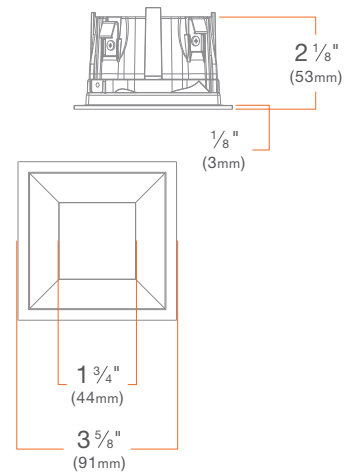
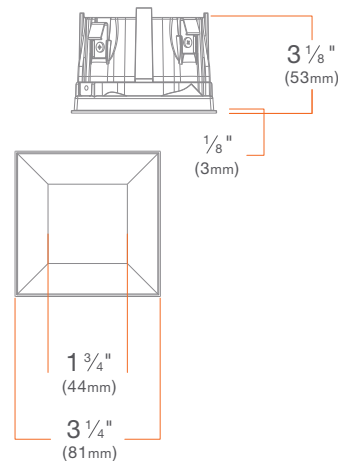**WARRANTY:** 5 year limited warranty

Standard

X2TSDSWH

2 ³⁄₁₆ "
(55mm)

¹⁄₈ "
(3mm)

1 ³⁄₄ "
(44mm)

3 ⁵⁄₈ "
(91mm)

Standard Micro Flange

X2TSDSWHMF

2 ¹⁄₈ "
(53mm)

¹⁄₈ "
(3mm)

1 ³⁄₄ "
(44mm)

3 ⁵⁄₈ "
(91mm)

Standard Flangeless

X2TSDSWHFL

3 ¹⁄₈ "
(53mm)

¹⁄₈ "
(3mm)

1 ³⁄₄ "
(44mm)

3 ¹⁄₄ "
(81mm)

Wall Wash

X2TSDWWH

2 ¹⁄₁₆ "
(51mm)

¹⁄₈ "
(3mm)

2 ⁹⁄₁₆ "
(64mm)

3 ⁵⁄₈ "
(91mm)
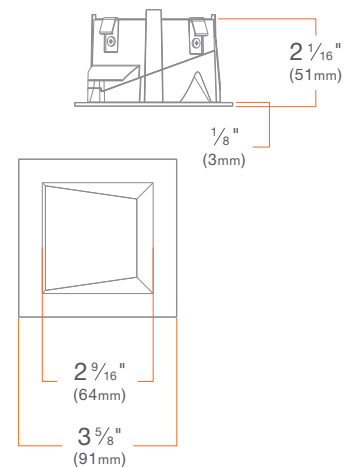
Wall Wash Micro Flange

X2TSDWWHMF

2 ¹/₈ " (53mm)

¹/₈ " (3mm)

2 ¹/₈ " (53mm)

3 ⁵/₈ " (91mm)
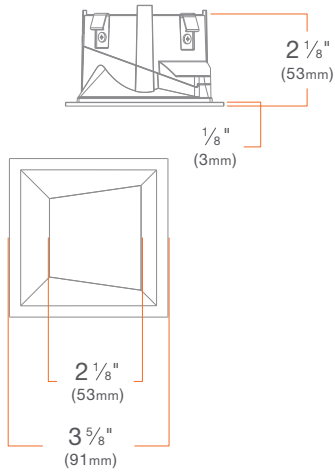
Wall Wash Flangeless

X2TSDWWHFL

2 ¹/₈ " (53mm)

¹/₈ " (2mm)

2 ¹/₈ " (53mm)

3 ¹/₈ " (81mm)

Pinhole

X2TSDPWH

2 ¹/₈ " (53mm)

¹/₁₆ " (2mm)

1 ¹/₂ " (38mm)

3 ¹/₂ " (89mm)
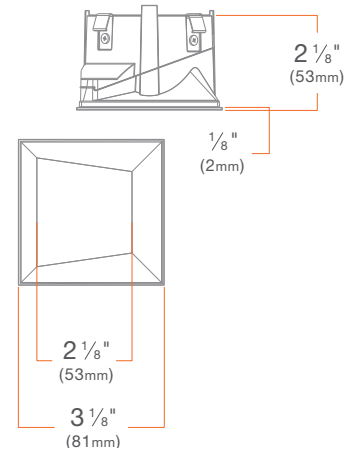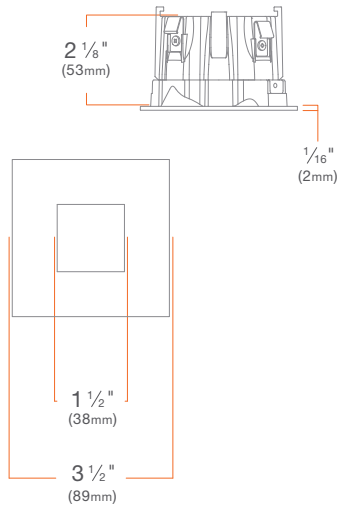
Pinhole Flangeless

X2TSDPWHFL

2 ¹/₈ " (52mm)

¹/₁₆ " (2mm)

1 ¹/₂ " (38mm)

3 ³/₁₆ " (81mm)
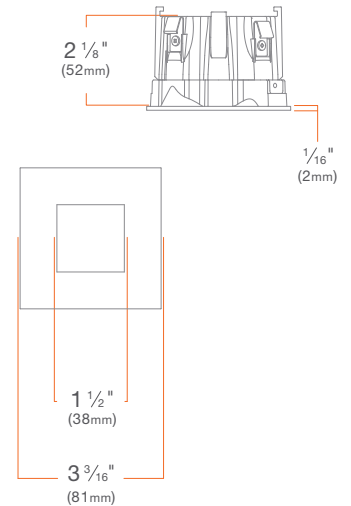
Decorative: Float

X2TSDSWHDF

2 ¹/₄ " (57mm)

1 ¹/₁₆ " (26mm)

3 ¹/₂ " (89mm)
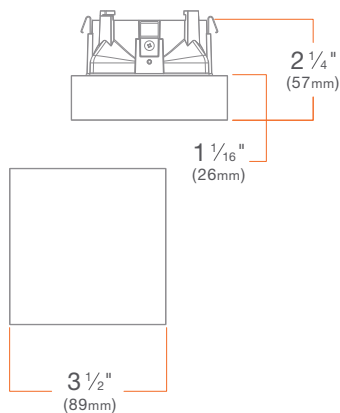
Decorative: Open

X2TSDSWHDO

2 ¹/₄ " (57mm)

1 ¹/₁₆ " (26mm)

2 ¹/₁₆ " (52mm)

3 ¹/₂ " (89mm)
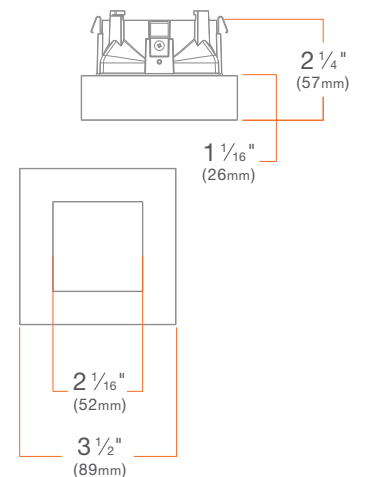
HOUSING
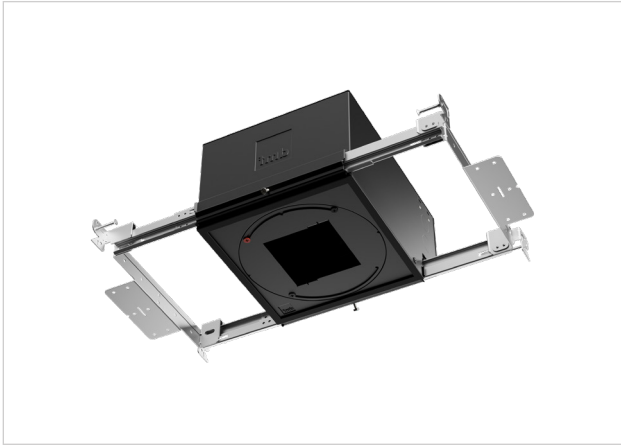
New Construction X2NCS
Chicago Plenum X2CPS

SUMMARY

JUNCTION BOX: Equipped with six knockouts: four ½" trade size knockouts, two ¾" trade size knockouts, and four romex knockouts. Approved for 8 (four in, four out) #12 AWG 70°C.

BAR HANGER MOUNTING: Adjustable Barhangers for 14.5" to 24" joist spacing. Compatible with traditional joists, Armstrong TM ceiling, Hat Channel, Tbar

CEILING: ½" up to 1 ¼"

CUTOUT: 3 ¼" (82mm) square opening

LISTINGS: Chicago Plenum, ASTM E283 certified Air Tight, IC (Insulation Contact) up to R-32 for Roll, Batt, and Loose Fill, up to R-60 Spray Foam with standard trims, up to R-32 Spray Foam with other trims

WARRANTY: 5 year limited warranty

5 ³/₈" (137mm)

7 ⁵/₈" (193mm)

14 ½" TO 24" (366mm to 610mm)
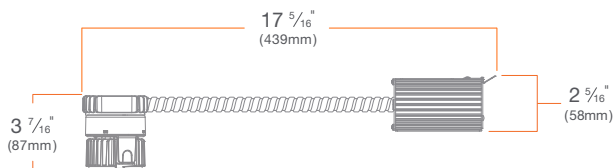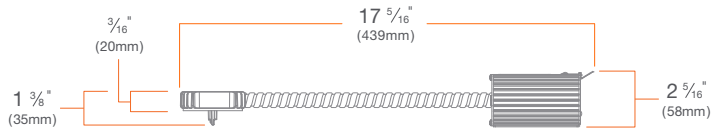
11 ⁷/₁₆" (290mm)
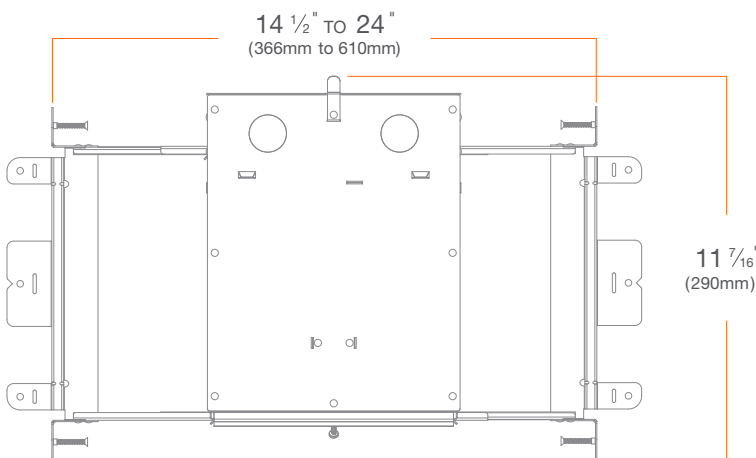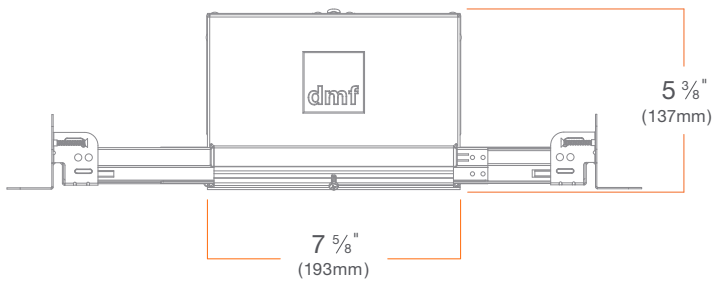
HOUSING

Remodel

X2RMS

SUMMARY

JUNCTION BOX: Equipped with four knockouts: two ½" trade size knockouts and two romex knockouts. Approved for 8 (four in, four out) #12 AWG 70°C.

CEILING: ⅝" up to 1 ¼"

CUTOUT: 3 ¼" (82mm) square opening

WARRANTY: 5 year limited warranty

ACCESSORIES

Flangeless Mud Kit
X2KSMUD

SUMMARY: Flangeless Mud Kit (Required for New Construction installation of Flangeless Trim in drywall ceiling)

CEILING: 0.5" up to 1.25"

2 $\frac{1}{16}$"
(56mm)

$\frac{1}{16}$"
(1mm)

$\frac{1}{16}$"
(1mm)

3 $\frac{1}{16}$"
(86mm)

6 $\frac{5}{16}$"
(160mm)
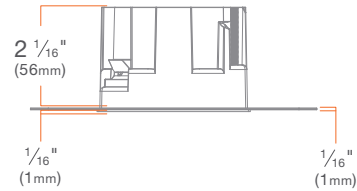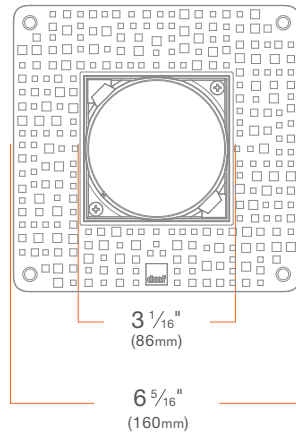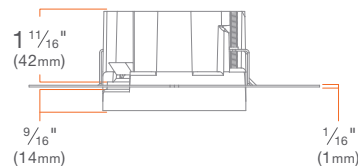
Wood Kit
X2KSWOOD

SUMMARY: Wood Kit (Required for New Construction installation of all trims in wood ceiling)

CEILING: 0.5" up to 1"

1 $\frac{11}{16}$"
(42mm)

$\frac{9}{16}$"
(14mm)

$\frac{1}{16}$"
(1mm)

3 $\frac{3}{16}$"
(81mm)

⌀ 6 $\frac{9}{16}$"
(166mm)
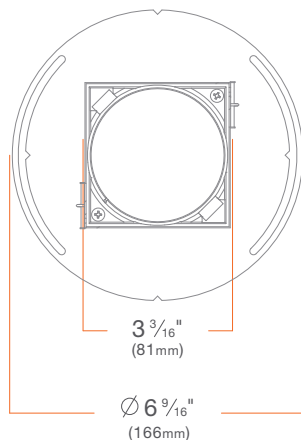
ACCESSORIES

Router Template
X2KSTEMPLATE

SUMMARY: Router Template (Recommended for routing 3 1/16"
[82mm] cutout for Flangeless Trim in wood ceiling)

X SERIES

1. CENTER TEMPLATE ON INTENDED HOLE POSITION.
2. SECURE TEMPLATE TO WOOD WITH CLAMPS/ WOOD SCREWS
3. USE FLUSH ROUTER BIT TO CUT HOLE
4. REMOVE TEMPLATE

1. COLOQUE LA PLANTILLA EN LA LOCACIÓN MARCADA EN LA MADERA.
2. SUJETE LA PLANTILLA UTILIZANDO ABRAZADERAS
3. USE BROCA DE ENRUTADOR CON PATRÓN AL RAS PARA CORTAR EL AGUJERO.
4. REMOVER LA PLANTILLA.

82 x 82mm ROUTER TEMPLATE

∅ 3 1/16"
(82mm)

∅ 7 7/8"
(200mm)

1/4"
(7mm)

dmf

PHOTOMETRY

1000 lm, 3000K, Spot XMD10930SPT

2" Standard White Trim X2TSDSWH

Candela Distribution

Luminous Intensity

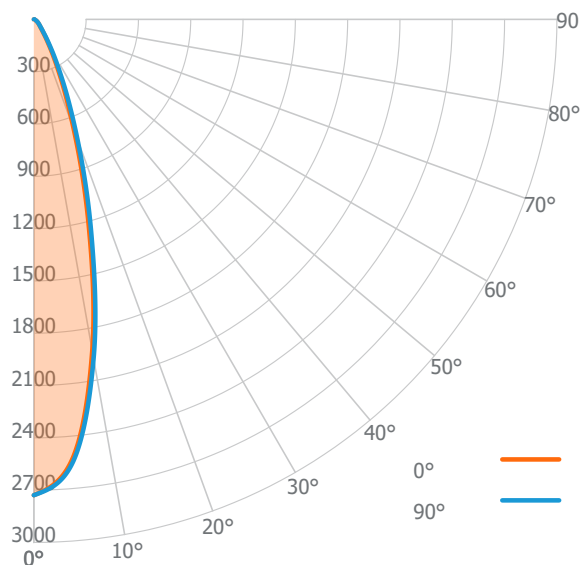|	0°
0°	2729
5°	2532
10°	1930
15°	1213
20°	669
25°	354
30°	185
35°	100
40°	62
45°	45
50°	33
55°	25
60°	18
65°	11
70°	6
75°	3
80°	2
85°	1
90°	1

Zonal Lumen Summary

Zone	Lumens	Luminaire %
0° - 30°	691	85%
0° - 40°	751	92%
0° - 60°	800	98%
0° - 90°	813	100%
0° - 180°	813	100%

Illuminance Chart

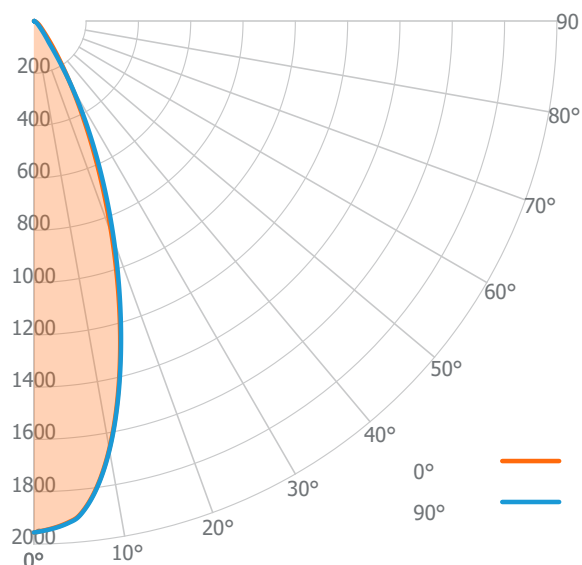| Distance from LED	Foot Candles	Diameter
3 ft	303.2 fc	1.5 ft
6 ft	75.8 fc	3.0 ft
9 ft	33.7 fc	4.5 ft
12 ft	19.0 fc	6.0 ft

Input Watts: **12.0 W**
Lumens: **813 lm**
Efficacy: **68 lm/W**
Beam Angle: **28° x 29°**

1000 lm, 3000K, Flood XMD10930FLT

2" Standard White Trim X2TSDSWH

Candela Distribution

Luminous Intensity

	0°
0°	1956
5°	1905
10°	1662
15°	1277
20°	870
25°	527
30°	286
35°	145
40°	76
45°	46
50°	32
55°	23
60°	16
65°	11
70°	6
75°	3
80°	2
85°	1
90°	1

Zonal Lumen Summary

Zone	Lumens	Luminaire %
0° - 30°	712	85%
0° - 40°	784	94%
0° - 60°	824	99%
0° - 90°	836	100%
0° - 180°	836	100%

Illuminance Chart

Distance from LED	Foot Candles	Diameter
3 ft	217.3 fc	2.0 ft
6 ft	54.3 fc	4.0 ft
9 ft	24.1 fc	6.1 ft
12 ft	13.6 fc	8.1 ft

Input Watts: **12.0 W**
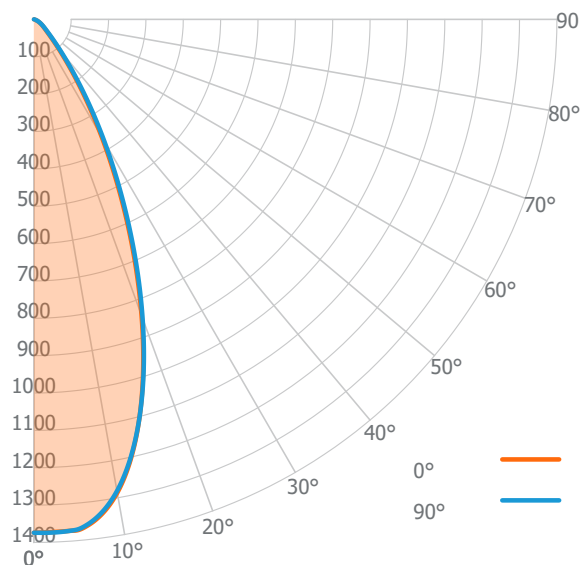Lumens: **836 lm**
Efficacy: **70 lm/W**
Beam Angle: **37° x 38°**

PHOTOMETRY

1000 lm, 3000K, Wide Flood   XMD10930WFT
2" Standard White Trim   X2TSDSWH

Candela Distribution

Luminous Intensity

	0°
0°	1374
5°	1372
10°	1287
15°	1096
20°	843
25°	584
30°	364
35°	203
40°	106
45°	58
50°	38
55°	27
60°	19
65°	13
70°	7
75°	4
80°	3
85°	2
90°	1

Zonal Lumen Summary

Zone	Lumens	Luminaire %
0° - 30°	643	77%
0° - 40°	756	91%
0° - 60°	818	98%
0° - 90°	835	100%
0° - 180°	835	100%

Illuminance Chart

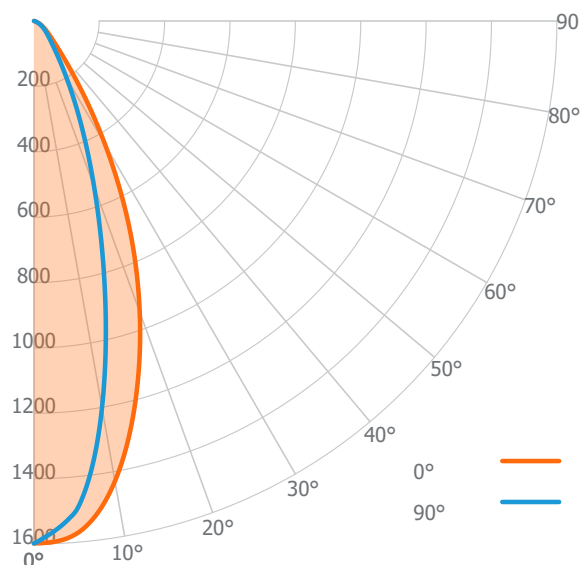| Distance from LED	Foot Candles	Diameter
3 ft	152.7 fc	2.5 ft
6 ft	38.2 fc	5.1 ft
9 ft	17.0 fc	7.6 ft
12 ft	9.5 fc	10.2 ft

Input Watts: **12.0 W**
Lumens: **835 lm**
Efficacy: **70 lm/W**
Beam Angle: **46° x 46°**

1000 lm, 3000K, Linear Spread   XMD10930LST
2" Standard White Trim   X2TSDSWH

Candela Distribution

Luminous Intensity

	0°
0°	1598
5°	1570
10°	1429
15°	1202
20°	947
25°	687
30°	435
35°	242
40°	132
45°	82
50°	57
55°	41
60°	29
65°	19
70°	10
75°	5
80°	3
85°	2
90°	1

Zonal Lumen Summary

Zone	Lumens	Luminaire %
0° - 30°	603	76%
0° - 40°	702	88%
0° - 60°	775	97%
0° - 90°	796	100%
0° - 180°	796	100%

Illuminance Chart

Distance from LED	Foot Candles	Diameter
3 ft	177.6 fc	2.5 ft
6 ft	44.4 fc	5.1 ft
9 ft	19.7 fc	7.6 ft
12 ft	11.1 fc	10.1 ft

Input Watts: **12.0 W**
Lumens: **796 lm**
Efficacy: **66 lm/W**
Beam Angle: **46° x 31°**