

LIGHTOLIER

by @signify

Downlighting

Calculite 3"

C3RA Round adjustable accent



Features industry leading visual comfort and patented installation flexibility. MesoOptics soft focus optical film provides excellent uniform illumination and color consistency at articulated angles. This meticulously engineered downlight is pre-adjusted to 22.5° out of the box, saving installation time. It can be vertically adjusted to 45° with three quick turns of a screwdriver and locked into place.

Complete luminaire = Frame + Engine + Trim + Accessories (optional)

Complete remodel luminaire = Engine + Trim + Accessories (optional)

Project: _____
Location: _____
Cat.No: _____
Type: _____
Lamps: _____ Qty: _____
Notes: _____

Frame

Note: For remodeler installations, order light engine and trim only (no frame needed).

example: 3RAS

Series	Installation	Voltage/Options
3R	☐	☐
3R Uniframe 3" round frame	N New Construction Non-IC	— Universal (120V/277V) EM Emergency (see pg 2 for details & limitations) ¹ IP Interact Pro ready (for 0-10V engine only) ²
	A AirSeal IC (1000lm max)	— Standard universal (120V/277V) S Shallow universal (120V/277V) ³
		LC Chicago plenum 3 347V (not compatible with ELV dimming) 3IP 347V with Interact Pro (for 0-10V engine only) ²

Engine

example: C3RA05940NSZ10US

Series	Style	Lumens	CRI	CCT	Beam	Dimming/Voltage	Plenum
C3R	A	☐	9	☐	☐	☐	☐
C3R Calculite 3" round light engine	A Adj. Accent	05 500lm	9 90CRI	27 2700K	NS Narrow Spot (15°) SP Spot (20°) NF Narrow Flood (23°) FL Flood (29°)	Z10U 0-10V 1% / Unv (120V/277V/347V)	- Standard
		07 750lm		30 3000K		LU Lutron PEQ0 (Dim to 0.1%) / Unv (120V/277V/347V)	
		10 1000lm		35 3500K		E1 ELV (120V dimming) / Unv (120V/277V/347V)	
		15 1500lm ⁴		40 4000K			
		07 750lm	9 90CRI	D2W 3000K-1800K ⁵			
		05 500lm	9 90CRI	27 2700K	NS Narrow Spot (15°) SP Spot (20°) NF Narrow Flood (23°) FL Flood (29°)	Z10U 0-10V 1% / Unv (120V/277V/347V)	R Remodeler ⁶ S Shallow ³
		10 1000lm		30 3000K		E1 ELV (120V dimming) / Unv (120V/277V/347V)	
				35 3500K			
				40 4000K			

Trim

example: C3RACLFLS6010

Series	Style	Reflector	Flange	MesoOptics
C3R	☐	☐	☐	☐
C3R Calculite 3" round trim	A Adjustable Accent AP Adjustable Pinhole ⁷	BK Black (anodized)	— White (matte) P Matching reflector F Flangeless ⁸	— Symmetrical soft focus optical film LS6010 Linear spread 60x10 optical film ASY21 Asymmetrical 21° bend angle optical film ASY8 Asymmetrical 8° bend angle optical film
		CL Specular clear		
		CC Comfort clear		
		CD Comfort clear diffuse		
		CZ Champagne bronze (anodized)		
		WH White (matte)	— White (matte) F Flangeless ⁸	
		WT Textured white (painted)	— White (matte) P Matching reflector F Flangeless ⁸	
		BT Textured black (painted)		
		BZ Bronze (painted)		
		D Alum. diffuse (painted)		

Accessories (order & install separately)

CA3RAAFT	Mud-in ring for flangeless installs (ordered with a flangeless trim)
SWZDT	SpaceWise wireless controller with dwell time functionality (compatible with all 0-10V options, see SWZDT spec sheet)
SRAINT	InterAct Office accessory (for use with Lightolier Uniframe 0-10V)
(additional field-installable optics)	
CA3NSSFR	12° Narrow Spot upper reflector
CA3SSFR	18° Spot upper reflector
CA3NFSFR	24° Narrow Flood upper reflector
CA3FLSFR	36° Flood upper reflector

- Emergency (EM) frame includes emergency battery with ceiling mounted test switch (no reflector mountable test switch). Requires above ceiling access. Ceiling mount test switch only (see page 2 for details and limitations).
- InterAct Pro (IP & 3IP) requires above ceiling access.
- Must order shallow IC frame (S), shallow engine (S) for complete shallow assembly. Standard depth trims are compatible with shallow frame.
- The 1500lm (15) option is not available with standard AirSeal IC frame (3RA-).
- Dim to Warm (D2W) engines are for Non-IC (N) frames only.
- For remodeler installations, order light engine and trim only (no frame needed).
- Order pinhole with Black (BK) or White (WH) finishes (both painted) for oculos, and White (-) painted flange only.
- Flangeless (F) trims require CA3RAAFT mud-in accessory for installation.



interact ready.

C3RA Calculite 3"

Round adjustable accent

Frame-in-kits

New construction:

Galvanized stamped steel for dry or plaster ceilings. Preinstalled telescoping mounting bars from 13" to 24". For 4' distances, use 1/2" EMT, 1-1/2" x 1/2" U or C channel.

Max ceiling thickness is 1.25" (32mm)

Patented install mounting frame:

- Pre-installed mounting bars for fast and tool-less installs into T-grid & hat channel ceilings.
- Close-cut aperture design eliminates possibility of gap between ceiling opening and reflector flange.
- Separate wiring compartment for wiring frame to building allows inspection prior to light engine install.
- Simple plug-and-play connection between frame and light engine from below ceiling.

Dimming

All configurations are FCC Class A unless otherwise specified.

- Advance 0-10V 1% (Z10)
- Lutron PEQO Hi-lume Premier 0.1% EcoSystem
- Electronic low voltage (ELV) – Remodel and AirSeal IC Shallow are FCC Class B
- Dim to Warm (D2W) – option changes CCT from 3000K to 1800K gradually as it dims

Optical systems

Quality of light: 2 SDCM ensures color consistency from fixture to fixture and over the luminaire's long lifetime.

Construction: Precision spun high grade aluminum reflectors with options for anodized or painted finishes. Shallow die cast downlight trims available to aesthetically match adjustable accent in painted finish.

Adjustability

- 45° vertical tilt, mechanical aiming with lock
- 360° rotation with lock
- Field changeable optics

SpaceWiseDT (SWZDT)

- Remote mounted and centralized SWZDT module accessory controls multiple luminaires.
- Compatible with any 0-10v driver
- 120-347V mains input voltage
- Up to 730VA load at 120V

Interact Office (SRAINT)

- Provides Interact Office functionality either remotely to a group of luminaires, or to individual luminaires
- Compatible with any 0-10v driver
- 120-347V mains input voltage

Interact Pro (IP)

- Requires above ceiling access for service.
- Interact Pro brings the power of connected lighting to small and medium businesses without the complexity usually associated with connected lighting.
- Interact Pro includes an app, a portal and a broad portfolio of wireless luminaires, lamps and retrofit kits all working on the same system.
- Commissioning via Interact Pro App (Android or iPhone).
- Prepare commissioning remotely via Interact Pro portal.
- Requires compatible Interact Pro Gateway and internet connectivity for commissioning.
- Compatible with UID8451/10 ZigBee Greenpower wireless dimmer switch.
- Compatible with wireless Occ sensor (OCC SENSOR IA CM IP42 WH 10/1) or wireless Day/Occ sensor (OCC MULTI SENSOR IA CM WH 10/1).
- For more information on Interact Pro visit: www.interact-lighting.com/pro.
- For more information on Interact Ready visit: www.philips.com/interact-ready.

MesoOptics optical diffusion film

- PET film containing surface relieved, microscopic light diffusing structures/elements
- Provides a clean beam with mitigated spill at articulated angles
- Optimizes luminaire efficacy via high optical transmission
- Homogenizes light engine luminance providing smooth gradients of white light
- Uniformly lit optical aperture creates a balance of beam precision coupled with smooth gradients of pure white light
- Other distribution options available including linear spread and asymmetric

Light engine

Quick connect power pack allow for easy installation and replacement from below ceiling with no need for additional wiring. This allows for:

- Frame and ceiling installation to be performed while still finalizing details such as lumen packages, CCT and control type.
- Easy replacement of electronics at end of life with minimal wasted material and labor required.
- Ease and upgradability of technology.
- Predicted 70% lumen maintenance to 57,000 hrs.
- Max operating ambient temperature of 30°C.

Options and accessories

Flangeless mud-in ring: Use CA3RAAFT for use with flangeless plaster installations.

Lens Film Accessories: Trim may accept up to three (3) field installed optical films with a total overall thickness up to 0.060" (1.5mm).

Title 24 exceptions

- Round Adjustable Accent CL, CC, CD, WH, WT only
- Must be installed in shallow AirSeal IC Frame
- Shallow luminaires must be ELV

ENERGY STAR® exceptions

- BK, CZ, BT, BZ, and D finishes
- 347V & Emergency voltage/options
- Adjustable pinhole (AP) trims
- Lutron configurations
- Dim to Warm configurations
- 1000lm configurations

Labels and listings

- cULus listed for damp locations
- ENERGY STAR® certified
- CEC Title 24 JA8 certified
- CCEA (frames with *LC suffix)

Warranty



5 year limited warranty
Visit Signify.com/warranties for more information on Signify's standard 5-year limited warranty on complete luminaire systems.

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0-10V electrical tables

Light engine	Input volts	Input current	Drive current	Input power
C3_A05_Z10U	120 V	0.08 A	200 mA	9.5 W
	277 V	0.03 A		
C3_A07_Z10U	120 V	0.09 A	250 mA	10.9 W
	277 V	0.04 A		
C3_A079D2W_Z10U	120 V	0.12 A	330 mA	13.6 W
	277 V	0.05 A		
C3_A10_Z10U	120 V	0.13 A	360 mA	15.6 W
	277 V	0.06 A		
C3_A15_Z10U	120 V	0.17 A	500 mA	20.4 W
	277 V	0.07 A		
C3_A05_Z10US C3_A05_Z10UR	120 V	0.08 A	220 mA	9.4 W
	277 V	0.03 A		
C3_A10_Z10UR C3_A10_Z10US	120 V	0.12 A	330 mA	14.1 W
	277 V	0.05 A		

ELV electrical tables

Light engine	Input volts	Input current	Drive current	Input power
C3_A05_E1	120 V	0.08 A	220 mA	8.7 W
	277 V	0.03 A		
C3_A07_E1	120 V	0.09 A	250 mA	10.2 W
	277 V	0.04 A		
C3_A079D2W_E1	120 V	0.11 A	330 mA	13.1 W
	277 V	0.05 A		
C3_A10_E1	120 V	0.11 A	350 mA	12.7 W
	277 V	0.05 A		
C3_A15_E1	120 V	0.17 A	500 mA	19.7 W
	277 V	0.07 A		
C3_A05_E1S C3_A05_E1R	120 V	0.08 A	220 mA	8.7 W
	277 V	0.03 A		
C3_A10_E1R C3_A10_E1S	120 V	0.11 A	330 mA	13.1 W
	277 V	0.05 A		

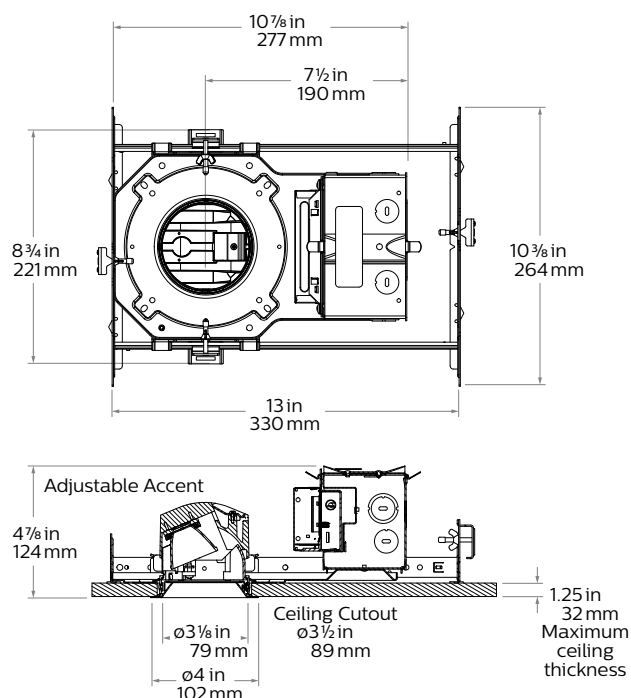
Lutron electrical tables

Light engine	Input volts	Input current	Drive current	Input power
C3_A05_LU	120 V	0.07 A	200 mA	8.4 W
	277 V	0.03 A		
C3_A07_LU	120 V	0.09 A	250 mA	10.7 W
	277 V	0.04 A		
C3_A079D2W_LU	120 V	0.12 A	330 mA	13.0 W
	277 V	0.05 A		
C3_A10_LU	120 V	0.13 A	360 mA	15.4 W
	277 V	0.06 A		
C3_A15_LU	120 V	0.17 A	500 mA	19.8 W
	277 V	0.07 A		

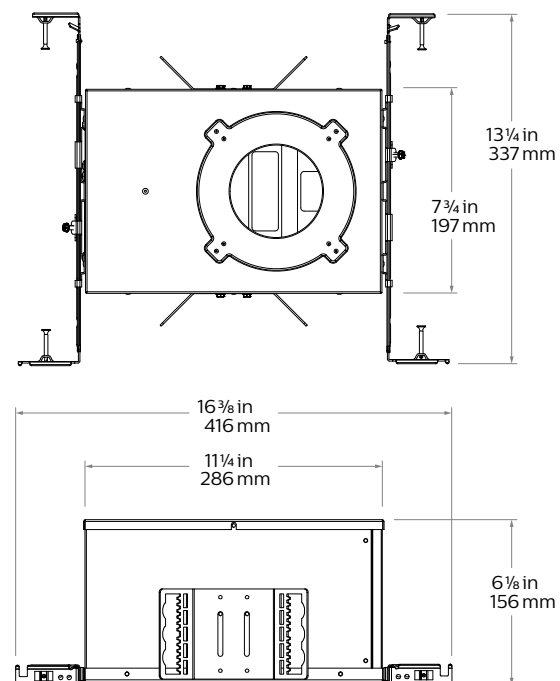
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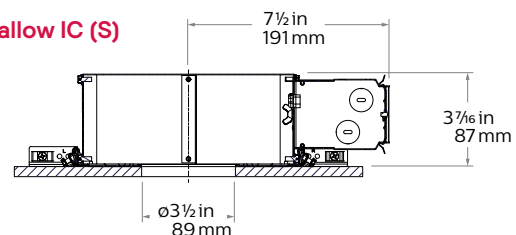
New construction (N)



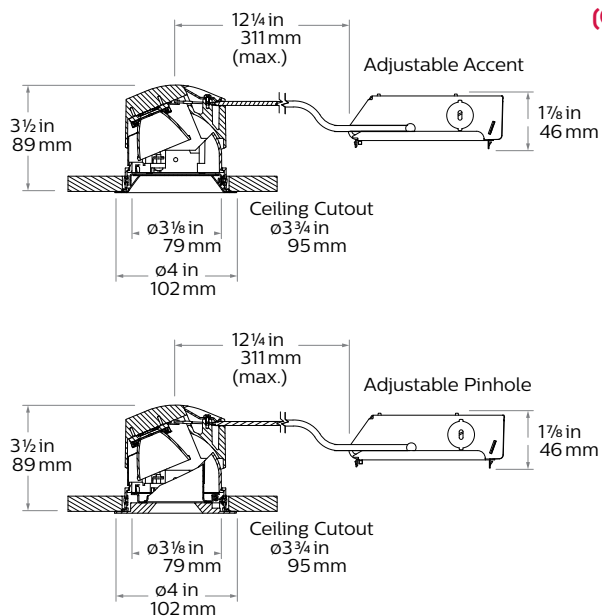
Standard IC (A) and Chicago plenum (LC)



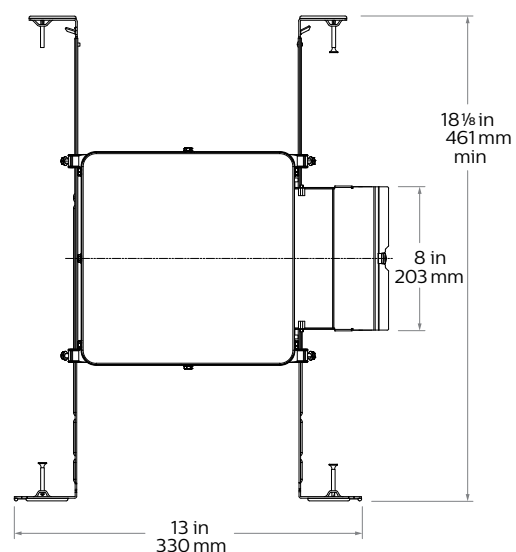
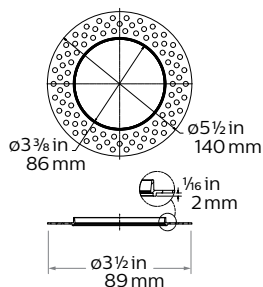
Shallow IC (S)



Remodeler (R)



Flangeless mud-in ring (CA3RAAFT) accessory



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Polished Reflectors Shown as round reflectors but represent the finish of Calculite square reflectors.



Specular clear (CL): Most specular and most efficient finish, delivers maximum photometric performance but can produce a mirror image effect of the interior space.



Champagne bronze (CZ): Semi-specular finish that softens light at the source of the reflector while providing a warmer reflector appearance (slightly warmer).



Comfort clear (CC): Semi-specular finish that softens the light at the source of the reflector and creates a subtle, even luminance from the reflector cone.



White (WH): (matte) Brightest illuminated aperture and provides the smoothest transition to most ceilings when off (white is only available with a white flange).

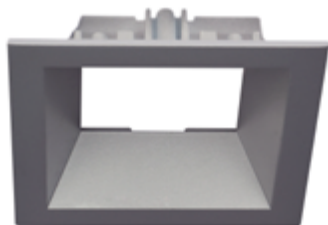


Comfort clear diffuse (CD): Slightly diffuse clear finish, that eliminates iridescence and reduces the mirror image effect inherent with specular finishes.



Black (BK): (anodized) Specular finish that provides the lowest aperture brightness possible and significantly reduces source identification in a ceiling.

Textured Reflectors Shown as square reflectors but represent the finish of Calculite round reflectors.



Aluminum diffuse (D):
Matte painted finish.



Textured white (WT):
Matte painted finish.



Bronze (BZ):
Matte painted finish.



Textured black (BT):
Matte painted finish.

Flanges



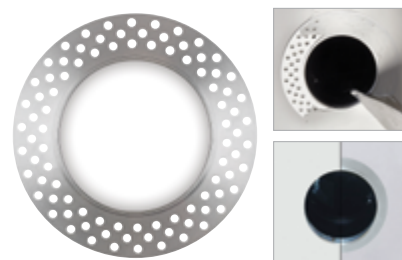
White (-): (matte) Provides the smoothest transition to ceilings when off.



Polished (P): (matches aperture) Produces a continuous look throughout the reflector (aperture matching).



Flangeless (F): (flush-mount) Creates a flush, virtually seamless transition from aperture to ceiling.



Mud-in ring (FT): Low profile, machined aluminum mud-in ring provides a raised rib to plaster up to and a 3/16" flange thickness. The ring is attached to the ceiling material as opposed to the frame-in kit to avoid conduction of heat and vibration which can cause yellowing or cracking of the plaster.



Adjustable Accent (A): Augments precision of the optical design to produce a unique accent luminaire. Finishing Reflector provides discrete, low luminance appearance while allowing maximum lighting efficacy.

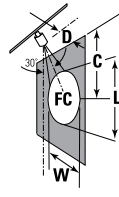
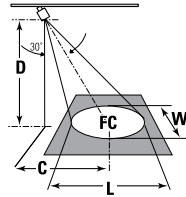
C3RA Calculite 3"

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Aiming angles

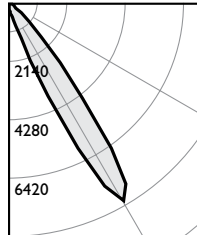
L and W are the outer points where the candle power drops to 50% of the maximum. FC are the initial footcandles at the center of the beam. Data shown is for 3000K, use the table on the right for CRI/CCT adjustment factors.

FC Footcandles
L Beam length
W Beam Width
D Distance
A Aiming Angle
C Distance to center beam
CBCP Center Beam Candlepower



Adjustment Factors

Standard	Shallow 1" Regress	CCT (90CRI)	Lumens
CL = 105%	WT = 112%	4000K = 104%	1500lm = 130%
CC = 100%	D = 100%	3500K = 100%	1000lm = 100%
CD = 80%	BZ = 77%	3000K = 96%	750lm = 70%
WH = 80%	BT = 74%	2700K = 90%	500lm = 50%
CZ = 78%			
BK = 40%			



Frame: 3RN
Engine: C3RA10935NSZ10U
Trim: C3RACC

Output lumens: 1267lms
Input watts: 15.6W
CRI: 90 min
CCT¹: 3500K
CBCP: 8449cd
Beam Angle: 15°

Efficacy: 81.2lm/w
Report²: F041197

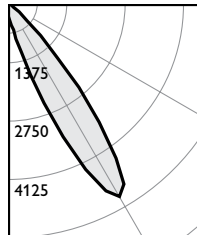
Narrow Spot, 1000lm engine, 81 lm/W at 16W

30° Horizontal Aiming

Distance		Beam		
D	C	F.C.	L	W
6	3.5	152	2.1	1.8
8	4.6	86	2.8	2.4
10	5.8	55	3.5	3.0
12	6.9	38	4.2	3.6

30° Vertical Aiming

Distance		Beam		
D	C	F.C.	L	W
2	3.5	264	2.2	1.1
3	5.2	117	3.3	1.6
4	6.9	66	4.4	2.1
5	8.7	42	5.6	2.6



Frame: 3RN
Engine: C3RA10935SPZ10U
Trim: C3RACC

Output lumens: 948lms
Input watts: 15.6W
CRI: 90 min
CCT¹: 3500K
CBCP: 5235cd
Beam Angle: 20°

Efficacy: 60.8lm/w
Report²: F041200

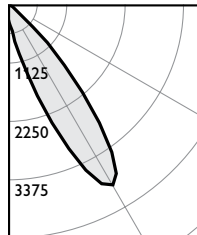
Spot, 1000lm engine, 61 lm/W at 16W

30° Horizontal Aiming

Distance		Beam		
D	C	F.C.	L	W
6	3.5	94	2.9	2.4
8	4.6	53	3.8	3.3
10	5.8	34	4.8	4.1
12	6.9	24	5.7	4.9

30° Vertical Aiming

Distance		Beam		
D	C	F.C.	L	W
2	3.5	164	3.1	1.4
3	5.2	73	4.7	2.1
4	6.9	41	6.2	2.8
5	8.7	26	7.8	3.5



Frame: 3RN
Engine: C3RA10935NFZ10U
Trim: C3RACC

Output lumens: 923lms
Input watts: 15.6W
CRI: 90 min
CCT¹: 3500K
CBCP: 4005cd
Beam Angle: 23°

Efficacy: 59.2lm/w
Report²: F041203

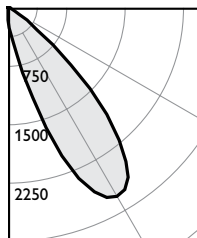
Narrow Flood, 1000lm engine, 59 lm/W at 16W

30° Horizontal Aiming

Distance		Beam		
D	C	F.C.	L	W
6	3.5	72	3.3	2.8
8	4.6	41	4.4	3.8
10	5.8	26	5.5	4.7
12	6.9	18	6.6	5.6

30° Vertical Aiming

Distance		Beam		
D	C	F.C.	L	W
2	3.5	125	3.7	1.6
3	5.2	56	5.6	2.4
4	6.9	31	7.4	3.3
5	8.7	20	9.3	4.1



Frame: 3RN
Engine: C3RA10935NSZ10U
Trim: C3RACC

Output lumens: 942lms
Input watts: 15.6W
CRI: 90 min
CCT¹: 3500K
CBCP: 2796cd
Beam Angle: 29°

Efficacy: 60.4lm/w
Report²: F041206

Flood, 1000lm engine, 55 lm/W at 16W

30° Horizontal Aiming

Distance		Beam		
D	C	F.C.	L	W
6	3.5	50	4.2	3.6
8	4.6	28	5.6	4.8
10	5.8	18	7.1	6.0
12	6.9	13	8.5	7.2

30° Vertical Aiming

Distance		Beam		
D	C	F.C.	L	W
2	3.5	87	5.2	2.1
3	5.2	39	7.8	3.1
4	6.9	22	10.4	4.1
5	8.7	14	12.9	5.2

1. Correlated Color Temperature within specs as defined in ANSI_NEMA_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.
2. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

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