lifeshield
Lighting for Complex Spaces

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

LTR-4SQD (SUR)

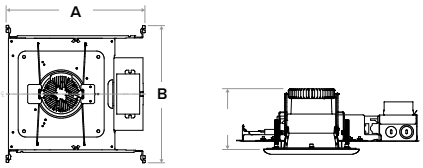
4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT

SURGICAL SUITE

FEATURES

- 4" square architectural LED downlight delivering 600–3000 lumens
- Five beam distributions allow for controlled illumination of medical suites
- 50° cutoff to source and source image provides a low glare, distraction free environment with enhanced visual acuity for intricate tasks
- Options for color temperature range from 2700K–5000K in 80+ or 90+ CRI providing quality illumination for a variety of surgical applications
- Aluminum anodized reflectors available in a wide array of colors and finishes
- Closed cell silicone gasket protects against dust and water ingress. Supports the fixture's ISO 3 cleanroom rating
- Suitable for wet location under covered ceiling and rated IP66 / IP69K (room side), making the product ideal for intense cleaning and sanitation
- Durable, marine grade, die cast aluminum bezel trim (low-copper alloy) and flush polycarbonate lens are available with optional antimicrobial paint finish and rated for NSF2 certification
- Standard for MIL 461G and IEC/EN 60601-1-2:2020, complies with safety and performance for EMI and medical electrical equipment and systems





Typical Dimensions and Weights				
Lumen Package	"A" Length Inches (mm)	"B" Width Inches (mm)	"C" Height Inches (mm)	Weight lbs (kg)
06L - 15L	14.56 (370)	14.36 (365)	4.83 (123)	7.7 (3.5)
20L - 30L	14.56 (370)	14.36 (365)	6.02 (153)	8.1 (3.7)

See DIMENSIONS section for complete details

(-BAA Option) (-TAA Option)

SPECIFICATIONS

CONSTRUCTION

- Corrosion resistant, marine grade (low copper alloy), die cast aluminum bezel trim
- Flush, impact resistant .250" thick, clear polycarbonate lens for ease of wipe down.
- Closed cell silicone gasket prevents dust and water ingress for IP66, IP69K, ISO3 certification
- Non-IC standard, Chicago Plenum and IC options
- Steel platform with black finish and pre-installed bar hangers simplify installation
- Pre-wired junction box with snap-on covers for easy access
- Snap-in quick connectors simplify electrical connections to the driver compartment
- Light Engine connections use plenum rated (CMP) cable

OPTICS

- Visually pleasing 50° cutoff to source and source image
- The light distribution is free of distracting bright spots or pixelation and the perimeter has a smooth transition
- Optical grade silicone lens is integral to the light engine to ensure precise beam control
- High purity aluminum reflector enables reliable and consistent finish and color
- Large selection of anodized inner reflector finishes and colors as well as painted cone options
- White painted bezel trim finish, antimicrobial white paint as option

ELECTRICAL

- Chip-on-board LED with 2 SDCM
- Multiple CCTs, 80+ or 90+ CRI
- Long LED life: L90 at >55,000 hours (TM-21)
- Universal voltage driver:
  120V-277V (06L-20L)
  120V-250V (25L/30L)
- UL Class 2, inherent short circuit and overload protection
- Flicker free 0–10V dimming 1%
- Battery pack with remote test switch and indicator available

INSTALLATION

- Accommodates ceiling thickness up to 2" (See DIMENSIONS section for details)
- Universal adjustable mounting brackets also accept 0.5" EMT conduit or 1.5" or 0.75" lathing channel (by others) or Prescolite accessory bar hangers (B24 or B6)
- Light Engine/Driver fully serviceable from above or below the ceiling

CERTIFICATIONS

- CSA certified, UL1598
- Suitable for wet location (under covered ceiling), IP66 and IP69K rated.
- ISO3 certified per ISO 14644-1:2015 ISO class 3 standards
- NSF2 Non-Food Zone certified
- Complies with MIL-STD-461G for electromagnetic compatibility

CERTIFICATIONS (CONTINUED)

- Complies with IEC/EN 6061-1-2:2020 for basic safety and performance for electromagnetic compatibility with medical electrical equipment and systems
- EMR: Certified under UL 924 standard for emergency lighting and power equipment
- EMR: Emergency battery packs are California Energy Commission (CEC) Title 20 Compliant
- Meets IK10 per IEC 60068-2-75 impact testing
- Approved for 8 (4 in / 4 out) No. 12AWG conductors rated for 90°C through wiring
- For -BAA Option: This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) See Buy America(n) Solutions
- For -TAA Option: Product configurations meet federal procurement law requirements under the Trade Agreements Act (FAR 52.225-11) See Buy America(n) Solutions

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	600–3000
Wattage Range	8–35
Efficacy Range (LPW)	60–81*
Life (Hours)	L90 / >55,000
Input Current (mA)	66-308 (120V)

* Based on Specular, 35K, 80 CRI

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lifeshield
Lighting for Complex Spaces

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

LTR-4SQD (SUR)

4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT

SURGICAL SUITE

ORDERING GUIDE

Example: LTR-4SQD-H-SUR-SL10L-DM1 / LTR-4SQD-T-SUR-SL35K8MD-SS / LTR-4SQD-CE-WTAM

CATALOG #

HOUSING

LTR-4SQD-H – SUR – [Lumen Package] [Lumen Output] – DM1 [Driver Options] [Voltage] [Housing Options] –

Aperture/Shape/Function	
LTR-4SQD-H	4" Square Downlight New Construction Housing

Housing Type	
SUR	Surgical Suite

Lumen Package		Lumen Output	
SL	Standard Lumen	**06L**	600
		10L	1000
		15L	1500
ML	Medium Lumen	**20L**	2000
		25L	2500
		30L	3000

Driver Options		Voltage	Housing Options	
DM1	0–10V Dimming to 1%	*Standard 120V-277V (06L-20L)*	**CP**	Chicago Plenum [2]
		120V-250V (25L/30L)	**IC**	IC rated [1,2]
			EMR	Emergency Battery Pack (CEC Title 20 Compliant) with remote test switch and indicator light, self-diagnostic feature [2]
			F	Fuse [2]
			BAA	Buy American Act (FAR 52.225-9) Compliant
			TAA	Trade Agreements Act (FAR 52.225-11) Compliant

TRIM

LTR-4SQD-T – SUR – [Lumen Package] [CCT] [CRI] [Distribution] –

Aperture/Shape/Function	
LTR-4SQD-T	4" Square Downlight Light Engine/ Trim Assembly

Trim Type	
SUR	Surgical Suite

Lumen Package		CCT		CRI		Distribution	
SL	Standard Lumen	**27K**	2700K	**8**	80+CRI	**VNR**	Very Narrow (0.3 SC/20°)
ML	Medium Lumen	**30K**	3000K	**9**	90+CRI	**NR**	Narrow (0.5 SC/30°)
		35K	3500K			**MD**	Medium (0.7 SC/40°)
		40K	4000K			**WD**	Wide (0.9 SC/59°)
		50K	5000K [3]			**XW**	Extra Wide (1.1 SC/74°)

TRIM CONTINUED

[Reflector Finish] [Reflector Color] [Reflector Options] –

Reflector Finish	
Finish not applicable with painted reflectors (WC or BC)	
S	Specular
SS	Semi-Specular
VS	Softglow®

Reflector Color	
Standard Clear	
CG	Champagne Gold
BL	Black
LW	Light Wheat
PW	Pewter
WC	Painted Matte White Cone and Flange
BC	Painted Matte Black Cone and Flange

Reflector Options	
BAA	Buy American Act (FAR 52.225-9) Compliant
TAA	Trade Agreements Act (FAR 52.225-11) Compliant

Notes:
1 IC available up to 20L
2 Housing options (except Fuse, BAA/TAA) not available in combination.
3 5000K available in 80+ CRI only.

BEZEL

[Bezel Type] – [Bezel Trim Color] – [Options]

Bezel Type	
LTR-4SQD-CE	4" Square Bezel Trim Assembly with Clear Polycarbonate Lens, Painted Stainless Steel Philips Head Screws (included)
LTR-4SQD-CEVR	4" Square Bezel Trim Assembly with Clear Polycarbonate Lens, Painted Stainless steel tamper resistant Torx® center pin reject (included)

Bezel Trim Color	
WT	Matte White
WTAM	Matte White Antimicrobial

Options	
BAA	Buy American Act (FAR 52.225-9) Compliant
TAA	Trade Agreements Act (FAR 52.225-11) Compliant

Accessories	
☐ **B24**	Set of two (2) 24" bar hangers for T-bar ceilings
☐ **B6**	Set of two bar hangers for ceiling joist up to 24" centers
☐ **LiteGear**	LiteGear® Inverter, 25VA–250VA
☐ **LPS Series**	LightPower Micro-Inverter, 20VA–55VA

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CATALOG #:

LTR-4SQD (SUR)

4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT

SURGICAL SUITE

PERFORMANCE DATA TABLE

Performance data provided below is for 3500K, 80 CRI

Lumen Package	Nominal Lumens	Distribution	Delivered Lumens	Watts	LPW
06L	600	Very Narrow	597	8.2	73
		Narrow	579	7.8	74
		Medium	562	7.8	72
		Wide	498	7.8	64
		Extra Wide	497	7.8	64
10L	1000	Very Narrow	981	12.5	78
		Narrow	925	12.0	77
		Medium	900	12.0	75
		Wide	796	12.0	66
		Extra Wide	795	12.0	66
15L	1500	Very Narrow	1409	18.0	78
		Narrow	1323	18.6	71
		Medium	1287	18.6	69
		Wide	1139	18.6	61
		Extra Wide	1137	18.6	61
20L	2000	Very Narrow	1771	22.8	77
		Narrow	1794	22.1	81
		Medium	1744	22.1	79
		Wide	1544	22.1	70
		Extra Wide	1541	22.1	70
25L	2500	Very Narrow	2135	29.6	72
		Narrow	2201	27.8	79
		Medium	2140	27.8	77
		Wide	1894	27.8	68
		Extra Wide	1891	27.8	68
30L	3000	Very Narrow	2495	37.0	67
		Narrow	2642	34.6	76
		Medium	2568	34.6	74
		Wide	2274	34.6	66
		Extra Wide	2269	34.6	66

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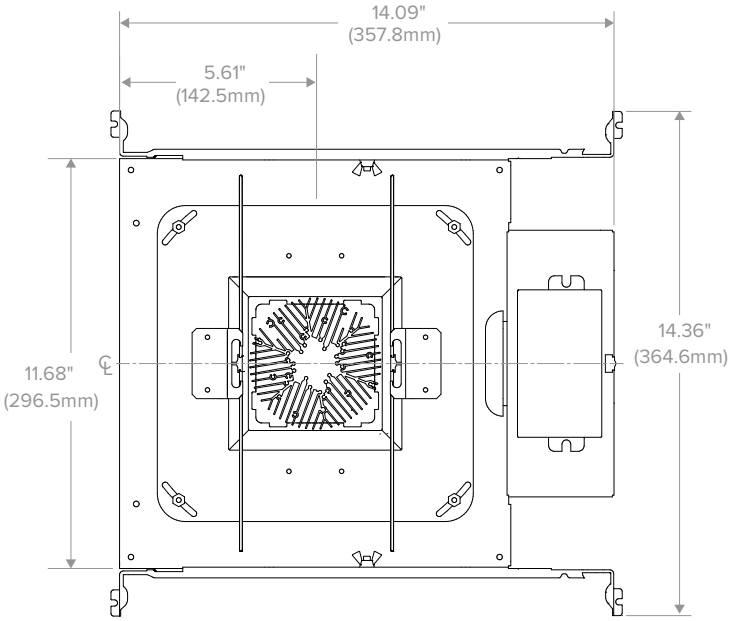
CATALOG #:

LTR-4SQD (SUR)

4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT

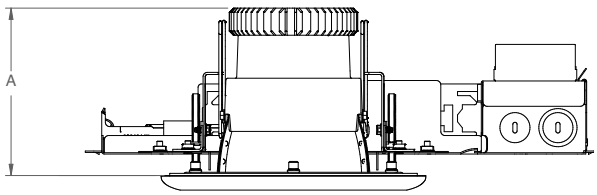
SURGICAL SUITE

DIMENSIONS



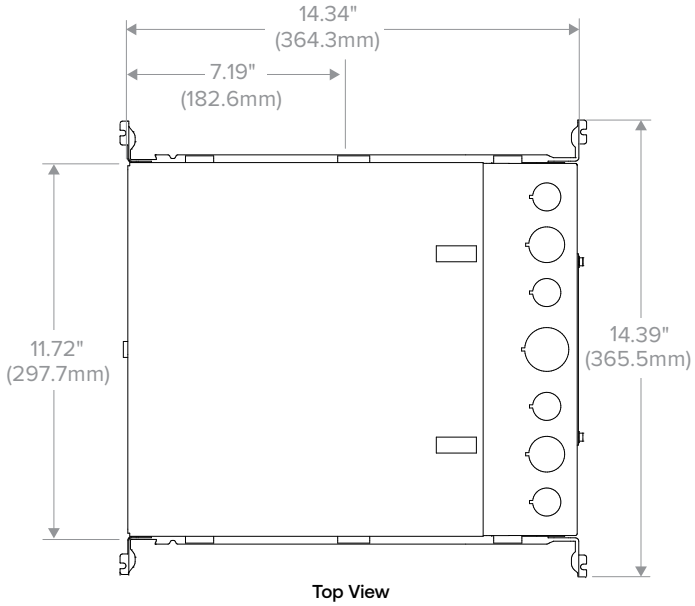
Top View

LTR-4SQD-H-SUR New Construction



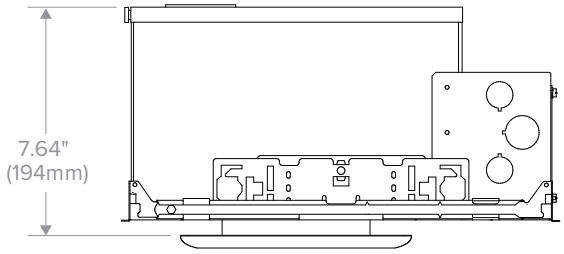
Dimensional Data	
Aperture	☐ 4.00" (101.6mm)
Flange	☐ 7.67" (194.8 mm)
Bezel (below ceiling)	0.42" (10.7 mm)
Ceiling Cutout	☐ 6.50" (165.1 mm)
Ceiling Thickness	0.50" to 2.00" (12.7 mm to 50.8 mm)

Lumen Package	"A"
06L–15L	4.83" (122.7mm)
20L–30L	6.02" (152.9mm)



Top View

LTR-4SQD-H-SUR IC/CP



Dimensional Data	
Aperture Opening	☐ 4.00" (101.6 mm)
Overall Flange	☐ 7.68" (195.1 mm)
Bezel (below ceiling)	0.42" (10.7 mm)
Ceiling Cutout	☐ 6.50" (165.1 mm)
Ceiling Thickness	0.50" to 2.00" (12.7 mm to 50.8 mm)

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DATE: | LOCATION:

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CATALOG #:

LTR-4SQD (SUR)

4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT

SURGICAL SUITE

PHOTOMETRY

LTR-4SQD-H-SUR-ML20L-DM1 / LTR-4SQD-T-SUR-ML35K8VNR-SS / LTR-4SQD-CE-WT

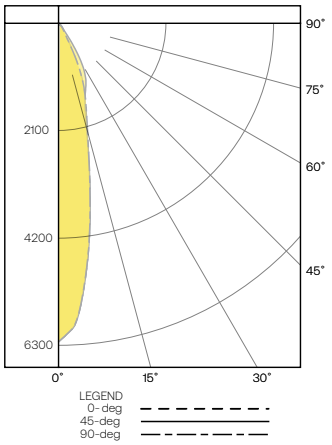
LUMINAIRE DATA

Test No.	**P22.01418**
Description	**2000 lm, Very Narrow, 3500K, 80 CRI**
Delivered Lumens	**1771**
Watts	**22.8W**
Efficacy	**77**
Mounting	**Recessed**
Spacing Criterion	**0.4**
Beam Angle (FWHM)	**23**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1681	94.9
0-60	1758	99.3
0-90	1771	100.0
0-180	1771	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	6203
5	5317
15	2136
25	868
35	161
45	72
55	18
65	8
75	4
85	1
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	9864
55°	3040
65°	1834
75°	1497
85°	1112

*Candela/Square Meter

LTR-4SQD-H-SUR-ML20L-DM1 / LTR-4SQD-T-SUR-ML35K8NR-SS / LTR-4SQD-CE-WT

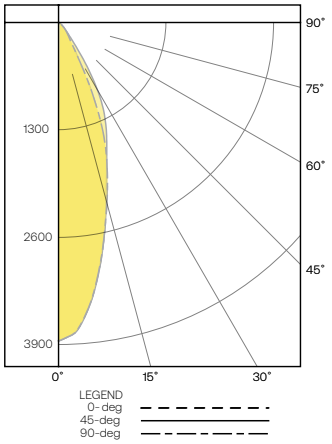
LUMINAIRE DATA

Test No.	**22.01419**
Description	**2000 lm, Narrow, 3500K, 80 CRI**
Delivered Lumens	**1794**
Watts	**22.1W**
Efficacy	**81**
Mounting	**Recessed**
Spacing Criterion	**0.6**
Beam Angle (FWHM)	**37**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1673	93.3
0-60	1780	99.2
0-90	1794	100.0
0-180	1794	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	3851
5	3578
15	2259
25	1008
35	223
45	98
55	22
65	9
75	5
85	1
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	13426
55°	3716
65°	2063
75°	1871
85°	1112

*Candela/Square Meter

LTR-4SQD-H-SUR-ML20L-DM1 / LTR-4SQD-T-SUR-ML35K8MD-SS / LTR-4SQD-CE-WT

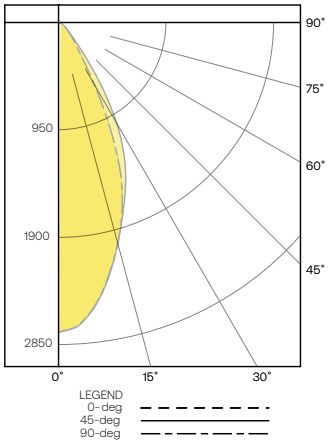
LUMINAIRE DATA

Test No.	**22.01420**
Description	**2000 lm, Medium, 3500K, 80 CRI**
Delivered Lumens	**1744**
Watts	**22.1W**
Efficacy	**79**
Mounting	**Recessed**
Spacing Criterion	**0.7**
Beam Angle (FWHM)	**46**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1611	92.4
0-60	1730	99.2
0-90	1744	100.0
0-180	1744	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	2739
5	2633
15	2018
25	1116
35	285
45	107
55	23
65	10
75	5
85	1
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	14659
55°	3885
65°	2292
75°	1871
85°	1112

*Candela/Square Meter

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CATALOG #:

LTR-4SQD (SUR)

4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT

SURGICAL SUITE

PHOTOMETRY CONTINUED

LTR-4SQD-H-SUR-ML20L-DM1 / LTR-4SQD-T-SUR-ML35K8WD-SS / LTR-4SQD-CE-WT

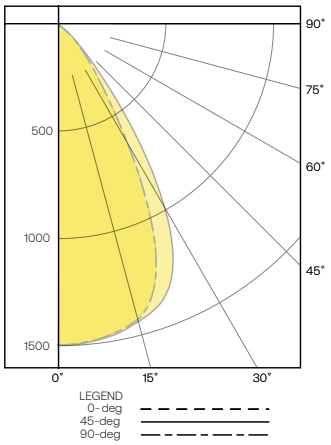
LUMINAIRE DATA

Test No.	**22.01421**
Description	**2000 lm, Wide, 3500K, 80 CRI**
Delivered Lumens	**1544**
Watts	**22.1W**
Efficacy	**70**
Mounting	**Recessed**
Spacing Criterion	**1.0**
Beam Angle (FWHM)	**58**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1369	88.7
0-60	1528	99.0
0-90	1544	100.0
0-180	1544	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	1492
5	1483
15	1417
25	1046
35	388
45	143
55	29
65	11
75	5
85	1
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	19591
55°	4898
65°	2521
75°	1971
85°	1112

*Candela/Square Meter

LTR-4SQD-H-SUR-ML20L-DM1 / LTR-4SQD-T-SUR-ML35K8XW-SS / LTR-4SQD-CE-WT

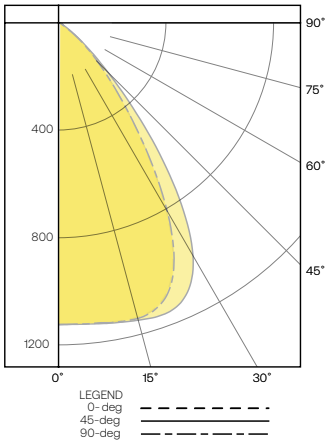
LUMINAIRE DATA

Test No.	**22.01422**
Description	**2000 lm, Extra Wide, 3500K, 80 CRI**
Delivered Lumens	**1541**
Watts	**22.1W**
Efficacy	**70**
Mounting	**Recessed**
Spacing Criterion	**1.1**
Beam Angle (FWHM)	**67**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1302	84.5
0-60	1523	98.8
0-90	1541	100.0
0-180	1541	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	1122
5	1124
15	1134
25	1001
35	537
45	194
55	33
65	12
75	5
85	1
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	26578
55°	5574
65°	2951
75°	1871
85°	1112

*Candela/Square Meter

LUMEN MULTIPLIER

Option	27K8	30K8	35K8	40K8	50K8	27K9	30K9	35K9	40K9
Multiplier	0.94	0.98	1.00	1.01	1.02	0.81	0.84	0.85	0.85

Photometrics are published below at a nominal 3500 Kelvin, 80+ CRI. This table may be used to approximate the lumen values at different Kelvin temperatures. Power consumption would stay the same.

REFLECTOR FINISH MULTIPLIER (Based on Clear (Standard) Color)

Option	Specular (S)	Semi-Specular (SS)	American Matte (MFC)	Softglow (VS)	Softsheen (VSS)
Multiplier	1	1	0.984	0.888	0.938

REFLECTOR COLOR MULTIPLIER (Based on Semi-Specular (SS) Finish)

Option	Clear (Standard)	Champagne Gold (CG)	Black (BL)	Light Wheat (LW)	Pewter (PW)	White Cone (WC)	Black Cone (BC)
Multiplier	1	0.974	0.444	0.861	0.915	0.984	0.442

Multiply FINISH x COLOR to calculate other reflector finish and color combinations. Example: SoftGlow Pewter (VSPW) = 0.888 (VS) x 0.915 (PW) = 0.813

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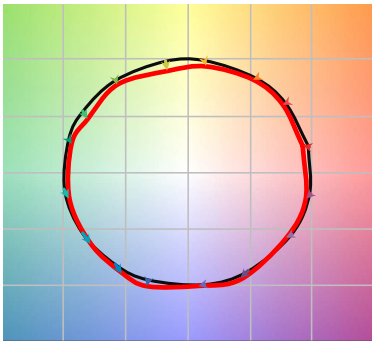
LTR-4SQD (SUR)

4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT

SURGICAL SUITE

TM-30 DATA

COLOR VECTOR GRAPHIC
3500K, 90 CRI



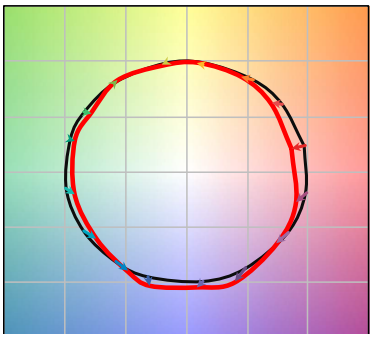
Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
3500K, 90 CRI



TEST RESULTS - 3500K		
Value	80+ CRI	90+ CRI
R_f	84	88
R_g	95	95
CCT (K)	3411	3419
D_{UV}	0.0015	0.0042
x	0.4120	0.4147
y	0.3974	0.4052
CIE R_a	84	93
CIE R_9	11	62

COLOR VECTOR GRAPHIC
3500K, 80 CRI



Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
3500K, 80 CRI



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DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

LTR-4SQD (SUR)

4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT

SURGICAL SUITE

ELECTRICAL DATA

DRIVER DATA	
Input Voltage	120V-277V (06L-20L) 120V-250V (25L/30L)
Input Frequency	50/60 Hz
Power Factor	≥0.90
THD	<20%
EMI Filtering (FCC 47 CFR Part 15)	Class A

* Values for DM1 option shown, values for other dimming options may vary.

ADDITIONAL INFORMATION

Dimming Compatibility
For more details and recommended dimmer list, see Dimming Compatibility Information on currentlighting.com/lifeshield.

Central Inverters
For full fixture output in back-up mode, we recommend you visit currentlighting.com/dual-lite for your Central Lighting Inverter options. Please contact your local Current representative for any assistance with proper sizing and loading of your inverter selection. Central lighting inverters must be ordered separately.

Bezel Trim
See installation instructions on currentlighting.com/lifeshield for complete details.

Lumen Output in Emergency Mode
To determine the lumen output in emergency mode multiply the battery pack wattage by the fixture lumens per watt (LPW).
For example, 7W x 120 LPW = 840 lumens in emergency mode.

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