

59L-P-ID-SC254

ARCOS 59 LED INDIRECT/DIRECT WITH SPECTRACLEAN™ GERMICIDAL TECHNOLOGY

FEATURES

- Safe and Effective Architecturally Styled LED lighting with UVC upper air disinfection
- Arcos, an arcuate formfactor available in 4' and 8' lengths (individual or continuous row)
- Choice of visible light distributions, Indirect/Direct or Indirect , both with upper UVC air disinfection option
- Cable pendant mounting
- UVC lamp is recessed within the luminaire, shielded to ensure UVC rays are targeting the required upper air zone
- Minimum 7' mounting above finished floor to ensure proper safety for occupants per ANSI guidelines
- UL1598 annex L upper air UVC design guidelines
- Simple time based "on/off" scheduling to control using onboard Hubbell NX controls or customer provided control system

SPECTRACLEAN™ 254
GERMICIDAL LIGHTING



RELATED PRODUCTS

- ⌘ [4L-P-D-SC254](#) ⌘ [59L-P-I-SC254](#)

CONTROLS



SPECIFICATIONS

CONSTRUCTION

- Housing - steel
- End caps - die-cast "sculpted-style"
- Lens - Frosted Acrylic

OPTICAL PERFORMANCE

- 2 SDCM color consistency, 80 CRI

INSTALLATION

- Suspension Assemblies Provided with 3/32" diameter field adjustable aircraft cables
- UVC Lamp provided by Litecontrol to be installed in the field
- Pendant locations at ends of rows. Yoke with field adjustable aircraft cable attach directly to the end header at fixture end or row joint. Allows for horizontal adjustment to "fine-tune" side-to-side leveling.

OPERATION

- Available via [web-browser](#) or download the free SpectraClean™ Estimator app from the [Google Play™](#) or [Apple® App Store](#).



ELECTRICAL

- 3C (3 Circuit) Uplight, UVC and downlight on their own circuit.
- LED boards and drivers can be accessed and removed from fixture, while installed
- LED boards can be replaced either individually or as part of 2' module
- Non-feed-2" diameter (unless 5" non-feed cover is specified).
- 4-wire, 7 amps max; 5-wire, 5 amps max.

CERTIFICATIONS

- CSA listed for damp location
- IBEW
- AF of L
- UL924 - consult factory for emergency battery options
- UL1598 ANNEX L
- ACGIH

CERTIFICATIONS (CONTINUED)

- ICNRP
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction. Materials under Trade Agreements effective 8/14/2020. See [Buy American Solutions](#). Contact factory for configurations including SpectraSync, NX, or sensors.

WARRANTY

- LED boards - 5 years
- LED drivers (standard) - 5 years
- UVC Lamp service life is one year
- See [www.litecontrol.com](#) for details

WARNINGS AND SAFETY

- Installers and occupants should avoid exposure to UVC lamps as well as looking directly at the lamp source as UVC can be harmful to skin and eyes. UVC lamps contain mercury; please recycle accordingly.
- Please see [page 8](#) for safety information regarding the Estimator Tool.

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KEY DATA	
Lumen Range Per Foot	Indirect: 800-1900 Direct: 400-1100
Wattage Range Per Foot	Indirect: 4.7-13.75 Direct: 4.69-13.52
Efficacy Range (LPW)	154

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ORDERING GUIDE

Example: 59L-P-ID-SC254-SOF-50-8-C2-30K-I080-D040-D01-3C-UNV-FA2

CATALOG # _____

59L						
Series	Mounting	Fixture Distribution	SpectraClean	Downlight Diffuser	Row Length (In Feet)	Max Length In Row
59L Arcos 59 LED	P Pendant	ID Indirect/Direct	SC254 SpectraClean UVC 254 nm	SOF Soft Diffuse Lens, Lambertian	—' Enter in foot increments	4 4', 1219mm 8 8', 2438mm

Finish/Color ¹	Color Temperature ³	Indirect Output/ft	Direct Output/ft	Driver	Circuiting
C2 Textured Matte White	30K 3000K 35K 3500K 40K 4000K	I080 Low 800 I130 Med 1300 I190 High 1900	D040 Low 400 D080 Med 800 D110 High 1100	D01 1% Dimming, 0-10V	3C 3 Circuit; Uplight, UVC and Downlight on Their Own Circuit

OPTIONAL

Voltage	Suspension Kit ²	Thru-wiring	Control Options
UNV Universal Voltage (120V through 277V)	FA1 Suspension Kit, 51" FA2 Suspension Kit, 87" FA3 Suspension Kit, 219"	W3 Provide Normal Thru Wiring Only	NX Standalone NXS NX, PIR BT Occupancy/Daylight Sensor, Slide Mount ^{4,5,6}

Notes:

- 1 Visit www.litecontrol.com/finishes for details.
- 2 Add suffix *N* to replace all 2" non-feed canopy covers with 5" canopy covers. FA1/V = 51" suspension kit w/ 5" canopies; Stems (where applicable), canopies, and feed cord are supplied in white regardless of fixture color unless otherwise specified
- 3 Only available in 80 CRI
- 4 Not available for row mounting. Only available with 0-10V Driver options. Contact factory for Length restrictions.
- 5 Refer to NX Integrated Controls Reference Table for Functionality of Options.
- 6 NX Sensors with Bluetooth, BLE, provides remote commission only.

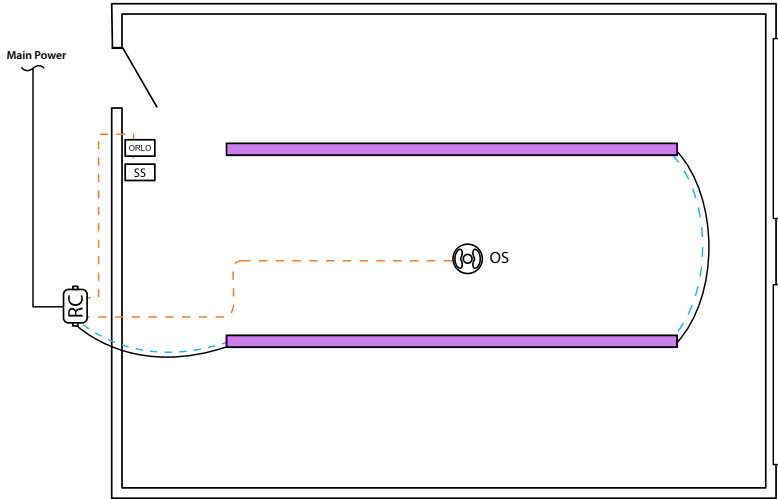
59L-P-ID-SC254

ARCOS 59 LED INDIRECT/DIRECT WITH SPECTRACLEAN™ GERMICIDAL TECHNOLOGY

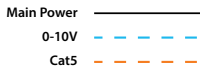
SPECTRACLEAN GERMICIDAL TECHNOLOGY

Controls Deployment with SpectraClean 254 enabled Luminaires

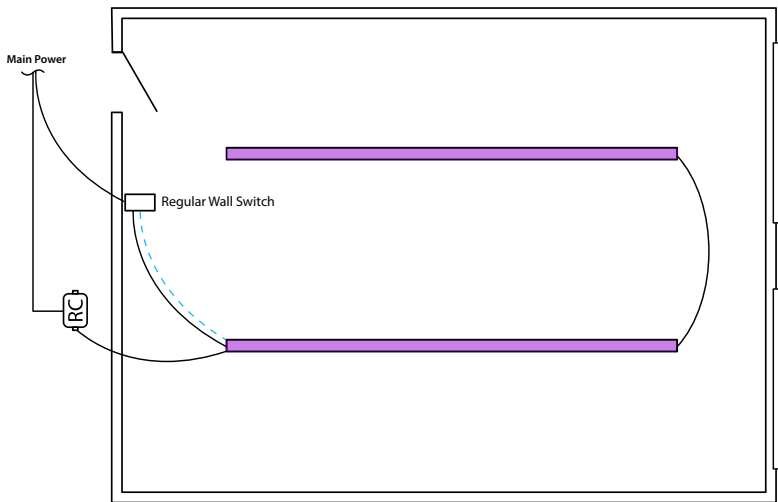
- The NX Room Controller provides the ability to control both SpectraClean 254 and Visible Light independently
- Integral Time-clock and Scheduling enable users to create custom schedules for regular disinfecting utilizing upper-air SpectraClean 254 luminaires
- NX Room Controllers can also be programmed to provide SpectraClean specific modes that allow for prescribed dosing levels and also post-occupancy dosing
- NX room devices such as Occupancy Sensors, Wall Stations, and Daylight Sensors can be utilized independently of the UVC portion of the SpectraClean 254 fixtures to control the normal visible lighting in the space



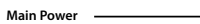
Control Scenario
Lighting and SpectraClean 254 Control



QTY.	Catalog #	Description
1	NXRC2-1RD-UNV	Room Controller with 1 Dimming Output
2	59L-P-ID-SC254 Row	Arcos 59 LED Indirect/Direct with SpectraClean™ Germicidal Technology
1	NXSW-ORLO	ORLO Specialty Switch
1	NXSW-SS	6 Button Scene Switch
1	NXOS-OMNI-DT1	Occupancy Sensor



Control Scenario
SpectraClean 254 Control Only



QTY.	Catalog #	Description
1	NXRC2-1RD-UNV	Room Controller with 1 Dimming Output
2	59L-P-ID-SC254 Row	Arcos 59 LED Indirect/Direct with SpectraClean™ Germicidal Technology
1	N/A	Regular Wall Switch

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SPECTRACLEAN 254 DOSAGE INFORMATION

59L Dosage Application				
CEILING HEIGHT	ROOM SIZE	# OF LUMINAIRES		
		1	2	3
10'	500 ft ²	<10 min		
	1500 ft ²	14 min	<10 min	
	2500 ft ²	24 min	12 min	<10 min
	5000 ft ²	48 min	24 min	16 min
	10000 ft ²	97 min	48 min	32 min
12'	500 ft ²	<10 min		
	1500 ft ²	10 min	<10 min	
	2500 ft ²	17 min	<10 min	
	5000 ft ²	34 min	17 min	11 min
	10000 ft ²	69 min	35 min	23 min

DOSAGE SCALING TABLE	
Pathogen	Scale factor
COVID-19	0.76
Pneumoniae	1.05
Legionella	0.59
Hand, Foot, & Mouth	2.41

This table estimates UVC exposure times needed to reduce Influenza by up to 99% based on the following assumptions:

- 1 Luminaire mounting height is 7'
- 2 Ceiling or wall surface sets fluence boundary
- 3 Luminaires are uniformly placed
- 4 Recommended 6ACH or greater
- 5 ACGIH TLV must be verified based on application and installation

The SpectraClean 254 Dosage Reference Table provides guidance based upon stated assumptions and is no guarantee of performance. Actual performance may vary depending on the specific environment and supplemental cleaning routines.

PERFORMANCE DATA TABLE

The table below shows the delivered lumens for the various lumen outputs. Use this chart in connection with the output multiplier capability to deliver any output required.

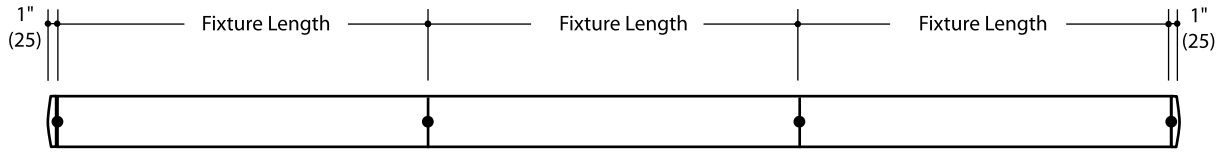
Nomenclature	Lumens/Ft	W/Ft	Efficacy
Uplight			
I080	800	4.7	154
I130	1300	8.5	150
I190	1900	13.75	140
Downlight			
D040	400	4.69	94
D080	800	8.42	91
D110	1100	13.52	85

(wattage may vary up to 5% from published)

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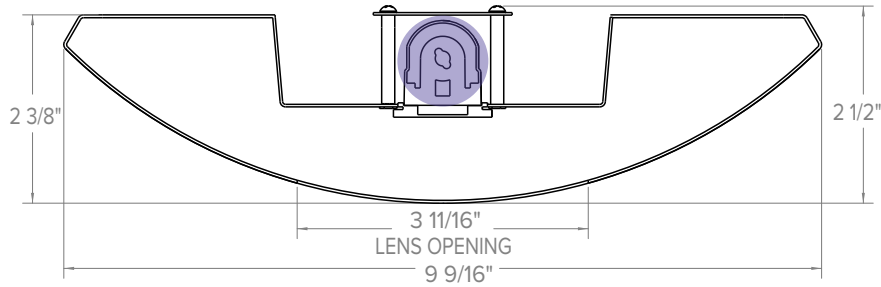
DIMENSIONS



Fixture Lengths: 4', 8'
● Indicates pendant locations

Standard (sculpted) end cap adds 1" length to each end of row or individual fixture.

ROW MOUNTING



UVC LAMP AND BALLAST

PHOTOMETRY

For application specific guidance, please refer to the [Estimator Tool User Guide](#).

59L-P-ID-SC254-SOF-4-4-CX-35K-I130-D080

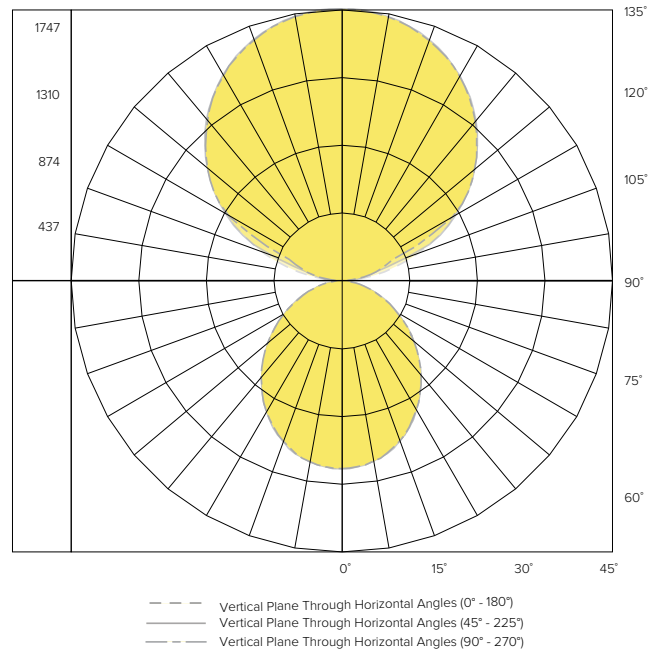
LUMINAIRE DATA

Test No.	20.01254 & 20.01257
Description	59L Pendant Indirect/Direct, Standard Uplight, Soft Diffuse Lens, 3500K
Delivered Lumens	8170
Watts	67.7W
Efficacy	121
Mounting	Pendant

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1459.00	17.90
0-60	2463.51	30.20
0-90	3061.51	37.50
0-180	8170.24	100.0

POLAR GRAPH



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ARCOS 59 LED INDIRECT/DIRECT WITH SPECTRACLEAN™ GERMICIDAL TECHNOLOGY

PHOTOMETRY (CONTINUED)

59L-P-I-SC254-SOF-4-4-CX-35K-I080

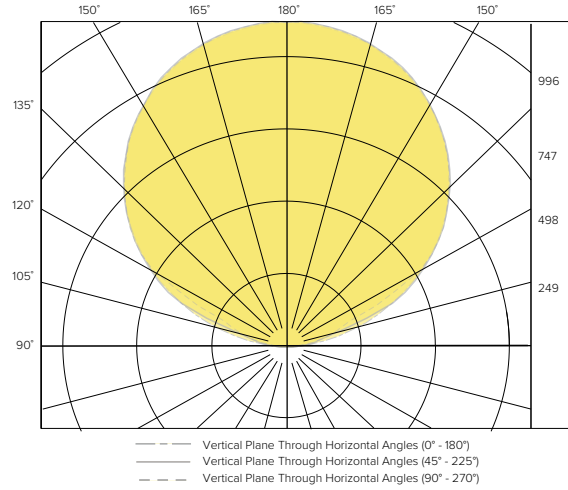
LUMINAIRE DATA

Test No.	20.01258
Description	59L Pendant Indirect, Standard Uplight, Soft Diffuse Lens, 3500K
Delivered Lumens	2905
Watts	18.8W
Efficacy	154
Mounting	Pendant

ZONAL RADIANT INTENSITY SUMMARY

Zone	Radiant Intensity	% Luminaire
90-110	206.81	7.10
90-120	565.58	19.50
90-130	1067.75	36.70
90-150	2122.44	73.10
90-180	2905.46	100.00
110-180	2698.65	92.90
0-180	2905.46	100.0

POLAR GRAPH



59L-P-I-SC254-SOF-4-4-CX-35K-I130

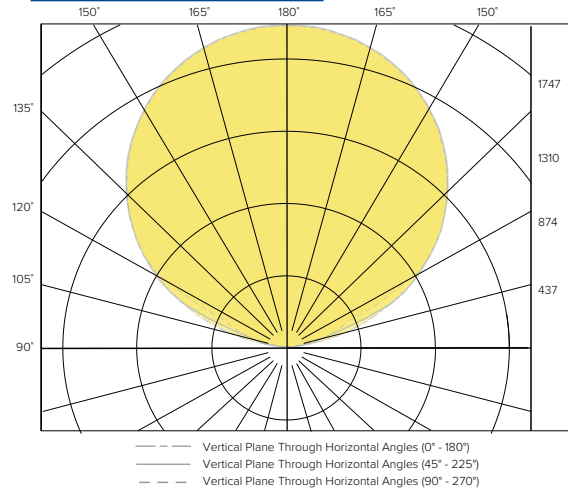
LUMINAIRE DATA

Test No.	20.01257
Description	59L Pendant Indirect, Standard Uplight, Soft Diffuse Lens, 3500K
Delivered Lumens	5099
Watts	34.0W
Efficacy	150
Mounting	Pendant

ZONAL RADIANT INTENSITY SUMMARY

Zone	Radiant Intensity	% Luminaire
90-110	362.64	7.10
90-120	992.18	19.50
90-130	1873.32	36.70
90-150	3724.32	73.00
90-180	5098.6	100.00
110-180	4735.96	92.90
0-180	5098.6	100.0

POLAR GRAPH



59L-P-I-SC254-SOF-4-4-CX-35K-I190

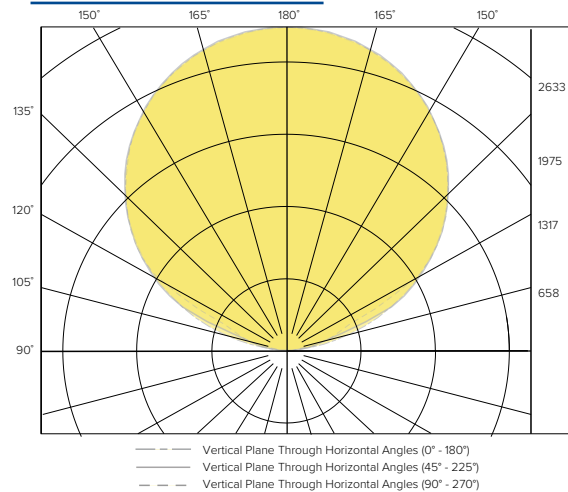
LUMINAIRE DATA

Test No.	20.01256
Description	59L Pendant Indirect, Standard Uplight, Soft Diffuse Lens, 3500K
Delivered Lumens	7684
Watts	55.0W
Efficacy	140
Mounting	Pendant

ZONAL RADIANT INTENSITY SUMMARY

Zone	Radiant Intensity	% Luminaire
90-110	546.27	7.10
90-120	1495.31	19.50
90-130	2823.22	36.70
90-150	5612.74	73.10
90-180	7683.55	100.00
110-180	7137.28	92.90
0-180	7683.55	100.0

POLAR GRAPH



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ARCOS 59 LED INDIRECT/DIRECT WITH SPECTRACLEAN™ GERMICIDAL TECHNOLOGY

PHOTOMETRY (CONTINUED)

59L-P-D-SC254-SOF-4-4-CX-35K-D040

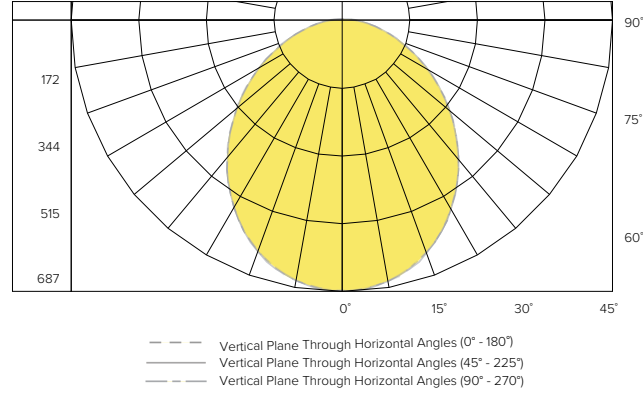
LUMINAIRE DATA

Test No.	20.01255
Description	59L Pendant Direct, Standard Uplight, Soft Diffuse Lens, 3500K
Delivered Lumens	1755
Watts	18.8W
Efficacy	94
Mounting	Pendant

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	833.71	47.5
0-60	1407.78	80.2
0-90	1749.22	99.7
0-180	1755.11	100.0

POLAR GRAPH



59L-P-D-SC254-SOF-4-4-CX-35K-D080

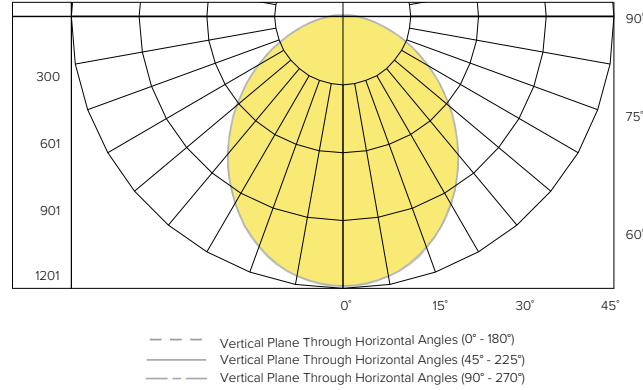
LUMINAIRE DATA

Test No.	20.01254
Description	59L Pendant Direct, Standard Uplight, Soft Diffuse Lens, 3500K
Delivered Lumens	3071
Watts	33.7W
Efficacy	91
Mounting	Pendant

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1459.00	47.5
0-60	2463.51	80.2
0-90	3061.15	99.7
0-180	3071.28	100.0

POLAR GRAPH



59L-P-D-SC254-SOF-4-4-CX-35K-D110

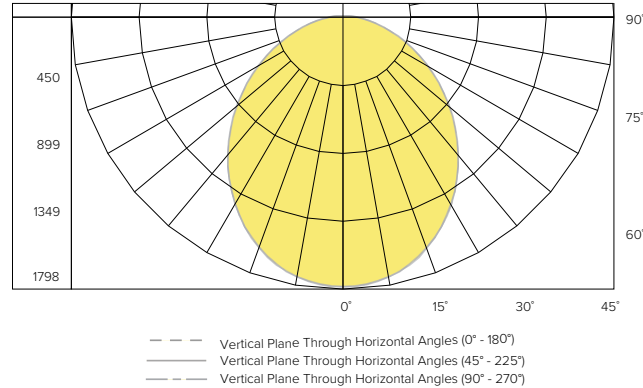
LUMINAIRE DATA

Test No.	20.01253
Description	59L Pendant Direct, Standard Uplight, Soft Diffuse Lens, 3500K
Delivered Lumens	4597
Watts	54.0W
Efficacy	85
Mounting	Pendant

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	2184.26	47.5
0-60	3688.53	80.2
0-90	4582.75	99.7
0-180	4597.38	100.0

POLAR GRAPH

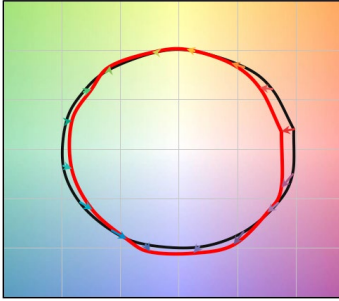


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TM-30 DATA

COLOR VECTOR GRAPHIC



*Graphics shown are at 35K

— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC



TEST RESULTS - 3500K	
Value	80+ CRI
CCT (K)	3494
CIE R _a	83
D _{UV}	-0.0004
R _f	82
R _g	96
x	0.4052
y	0.3898

ADDITIONAL INFORMATION

Driver

D01	100%- 1% dimming range. Fixture will be wired for low voltage 0-10V dimming control.
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Rated Life

Tested in accordance to LM79-2008 & derived from EPA TM-21 calculator

L70: 280,000 (calculated per TM-21 extrapolated curve)

L70: >61,000 (reported per TM-21/LM80 6x's limitation)

L90: 72,000 (calculated per TM-21 extrapolated curve)

L90: >61,000 (reported per TM-21/LM80 6x's limitation)

Rated Life (Driver)

Standard = 100,000 hours

Fixture Weight

3.75 lbs/ft

Estimator Tool Terms and Conditions:

The Estimator Tool may only be used to provide preliminary estimates for luminaire quantity, placement and operation time. It should not be relied upon to determine the actual maximum operation time or min/max dosing time range. It is the responsibility of the installer to determine the maximum operation time, min/max dosing time range, and maximum irradiance values using field measurements for the specific application per International Electrotechnical Commission (IEC) 62471 acceptable risk groups and American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV). An installer should conduct a post-commissioning operation audit of irradiance levels in the space before a room is occupied. Hubbell is not responsible for ensuring that occupants of the space will not be exposed to excessive UV or optical radiation during equipment operation.