LUMENFOCUS

Project: _____

Location: _____

Cat. #: _____

Type: _____

Quantity: _____

90+ CRI

LED

ECL G2 4 | LED Strip

Features:
- High performance LED technology
- 0-10V dimming drivers standard
- DALI drivers available
- Field replaceable LED boards and drivers
- Frosted diffuser available to help minimize glare and improve aesthetics
- A wide variety of lumen packages and lengths allows for flexibility in design and helps maximize energy savings
- Advanced controls available
- Buy American Act compliant *(All base luminaires are BAA compliant. Addition of options may change eligibility. Contact factory for details.)*

Applications:
Suitable for most commercial, industrial and institutional applications
- Office
- Retail
- Warehouse
- Coves
- Valences

Ambient Operating Temp.:
- -30°C to 40°C

Predicted Lifetime:
- L70: ≥ 129,000 hrs (calculated)
- L80: ≥ 81,000 hrs (calculated)
- L90: ≥ 39,000 hrs (reported)
- 85% lumen maintenance @ 60,000 hrs *(based on LM80 and insitu laboratory testing)*

Construction:
- Precision brake formed from cold rolled steel with a highly durable matte white finish. Optional matte black and metallic silver options constructed of brake formed aluminum

Certifications:
- UL 1598 listed for US and Canada, suitable for damp locations
- DesignLights Consortium qualified on specific configurations (refer to DLC qualified products list for exact model numbers) http://designlights.org/

Warranty:
- 5 year limited system warranty - see www.LumenFocus.com for complete warranty terms and conditions
- 10 year warranty option available on specific models *(Not available on all models. Certain conditions apply. Consult factory or sales representative for details.)*

MADE IN USA
USING DOMESTIC AND FOREIGN COMPONENTS

BAA BUY AMERICAN ACT COMPLIANT

10 YEAR EXTENDED WARRANTY AVAILABLE ON CERTAIN MODELS

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Ordering Guide:

Series	Version	Length	Output	Voltage	Shielding	CRI/CCT	Hanging	Controls	Options	Finish
ECL	*G2*	*4*								
ECL	G2 Gen 2	4 4'	**LW** Low	**UV** 120-277	**Blank** No Lenses	**930** 90 CRI/3000K	**Blank** None	**Blank** No Controls	**Blank** No Options	**Blank** White
			ML Medium Low	**34** 347V	**FR** Frosted Acrylic Diffusers	**935** 90 CRI/3500K	**VC** V-Chain Hangers	**ZSOL** Leviton Intellect Solo Programmable PIR/Daylight Harvesting Sensor[1]	**EXT10** 10-Year Extended Warranty[5]	**BK** Matte Black
			MD Medium			**940** 90 CRI/4000K	**QC** 10' Quick Hang Cable Kit	**ZLD1** Leviton Bluetooth-enabled Programmable Dimming/Occupancy/Daylight Harvesting Sensor with Grouping (120-277V)[1]	**C6** 6' Single Circuit Cord	**SL** Metallic Silver
			MH Medium High			**950** 90 CRI/5000K	**QC20** 20' Quick Hang Cable Kit	**ZLDU** Leviton Bluetooth-enabled Programmable Dimming/Occupancy/Daylight Harvesting Sensor with Grouping, Scheduling (120-480V)[1]	**C65W** 6' Single Circuit Cord with Low Voltage Connections	
			HI High				**SH** Slide Hanger	**Z211L_** Wattstopper FSP Programmable Photo/Motion Multi-Voltage Sensor (high/low/off)[2]	**C10** 10' Single Circuit Cord	
			VH Very High					**Z311L_** Wattstopper FSP Bluetooth-enabled Programmable Photo/Motion Multi-Voltage Sensor (high/low/off)[2]	**C105W** 10' Single Circuit Cord with Low Voltage Connections	
			SH Super High					**ZOSMD** Microwave Daylight/Motion Sensor With Step-Dimming (High/Low/Off)[3]	**D6** 6' Dual Circuit Cord	
								ZSLFC2 Keystone SmartLoop Wireless Bluetooth Mesh Occupancy/Daylight Harvesting Smart Sensor[1]	**D10** 10' Dual Circuit Cord	
								ZLDS Leviton Intellect DALI Sensor with Dimming/Occupancy/Daylight Harvesting with Network Capabilities[4]	**P(NEMA)** Plug (Specify NEMA configuration)	
								ZL7S Leviton Intellect 0-10V Sensor with Dimming/Occupancy/Daylight Harvesting with Network Capabilities[4]	**SC** Safety Cable	
								ZLDC Leviton Intellect DALI Fixture Controller with Network Capabilities[4]	**F** Fuse	
								ZL7C Leviton Intellect 0-10V Fixture Controller with Network Capabilities[4]	**EM6** 6.5W Emergency Pack[6]	
								ZENLC Enlighted Micro Sensor with Dimming/Occupancy/Daylight Harvesting and Enlighted Connected System[4]	**EM10** 10W Emergency Pack[6]	
								ZENLI Enlighted Micro Sensor with Dimming/Occupancy/Daylight Harvesting and Enlighted IoT System[4]	**EM14** 14W Emergency Pack[6]	
									QWH(_) Quick Wire Harness[7]	
									SDT(480V) 480V to 277V Step Down Transformer	
									CC Conformal Coating	
									LVL 0-10V Dimming Leads for Easy Field Access	
									BAA Buy American Act Compliant	

Notes

[1] See Page 5 for more details.
[2] "_" = lens type. See Page 5 for more details.
[3] 120-277V only. See Page 5 for more details.
[4] See Page 6 for more details.
[5] Not available on all models. Certain conditions apply. Consult factory or sales representative for details.
[6] 120-277V / 0°C-55°C ambient. To estimate lumen output in emergency mode, multiply EM wattage by the Lumens per Watt of the luminaire it is installed in.
ex. ECL G2 4 MD UV 940 EM10 → 149.9 LPW x 10W = 1,499 lm
[7] "_" for 2-circuit wiring, specify circuit A or B here.

LUMENFOCUS Re-boardABILITY

The ECL G2 features field replaceable boards and drivers. This allows you to upgrade to more efficient technology in the future. Or, in the rare event of a failure, you can rapidly replace defective components. Re-boardABILITY helps to ensure you won't get stuck with an obsolete light fixture. Learn more about Re-boardABILITY here.

Accessories *(order separately)*

WG(ECL4)   Wire Guard
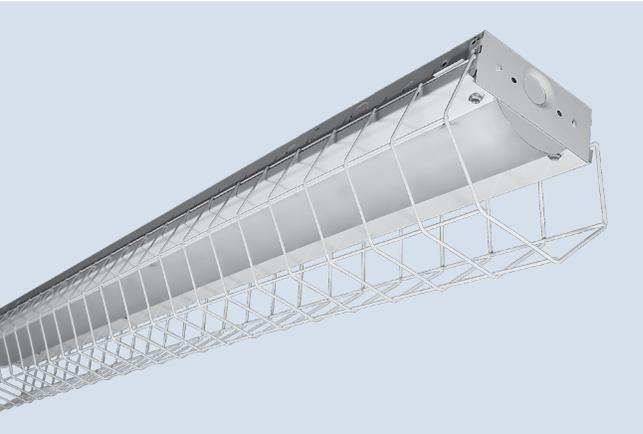
Controls Accessories *(order separately)*

For Leviton Programmable Sensor
ZLS0R-RA1   IR Programming Remote

For WattStopper Controls
FSIR-100   Wireless IR Programming Tool
                      (For Z211Lx)

For Keystone SmartLoop Controls
KTSL-WS1-B-SG/G2   5-Button Bluetooth Wireless Wall Switch
KTSL-TK1-USB   USB Time Keeper

For Leviton Intellect Controls
DRKDN-U1W   1-Button Wireless Wall Controller
DRKDN-U2W   2-Button Wireless Wall Controller
DRKDN-U4W   4-Button Wireless Wall Controller
DRKDN-U8W   8-Button Wireless Wall Controller

For Enlighted Controls
WS-2-00   Enlighted Remote Control Wall Switch
                      (for Enlighted Connected & IoT)

Performance Chart:

| Catalog #	Watts	Lumens (930)	LPW (930)	Lumens (935)	LPW (935)	Lumens (940)	LPW (940)	Lumens (950)	LPW (950)
ECL G2 4 LW UV FR 9xx	15.4	2124.9	138.2	2133.9	138.8	2184.6	142.1	2184.6	142.1
ECL G2 4 ML UV FR 9xx	22.3	3158.3	141.7	3171.6	142.3	3246.9	145.7	3246.9	145.7
ECL G2 4 MD UV FR 9xx	29.6	4110.6	138.7	4127.9	139.3	4225.9	142.6	4225.9	142.6
ECL G2 4 MH UV FR 9xx	34.2	5054.2	147.8	5075.5	148.4	5196.1	151.9	5196.1	151.9
ECL G2 4 HI UV FR 9xx	43.5	6253.9	143.8	6280.2	144.4	6429.4	147.9	6429.4	147.9
ECL G2 4 VH UV FR 9xx	56.3	8202.0	145.7	8236.6	146.4	8432.2	149.8	8432.2	149.8
ECL G2 4 SH UV FR 9xx	73.0	10264.3	140.6	10307.6	141.2	10552.4	144.6	10552.4	144.6
ECL G2 4 LW UV 9xx	15.4	2233.5	145.2	2243.0	145.9	2296.2	149.3	2296.2	149.3
ECL G2 4 ML UV 9xx	22.3	3319.7	149.0	3333.7	149.6	3412.9	153.2	3412.9	153.2
ECL G2 4 MD UV 9xx	29.6	4320.6	145.8	4338.9	146.4	4441.9	149.9	4441.9	149.9
ECL G2 4 MH UV 9xx	34.2	5312.6	155.3	5334.9	156.0	5461.7	159.7	5461.7	159.7
ECL G2 4 HI UV 9xx	43.5	6573.5	151.2	6601.2	151.8	6758.0	155.4	6758.0	155.4
ECL G2 4 VH UV 9xx	56.3	8621.2	153.2	8657.6	153.8	8863.2	157.5	8863.2	157.5
ECL G2 4 SH UV 9xx	73.2	10788.9	147.5	10834.4	148.1	11091.7	151.6	11091.7	151.6

Schematic:

47.875

2.000

4.500
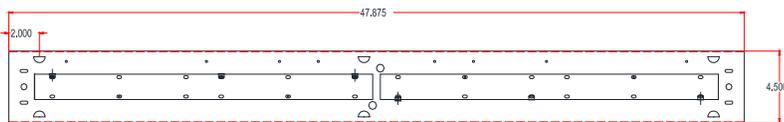
Options:

Shielding Frosted acrylic diffuser lenses minimize glare and improve aesthetics.
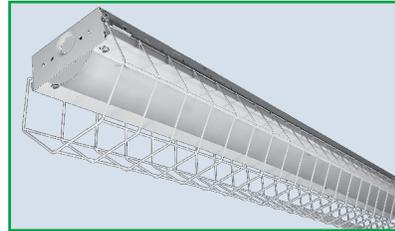

Conformal coating Grants LED boards added protection from moisture and corrosion in more hazardous environments.
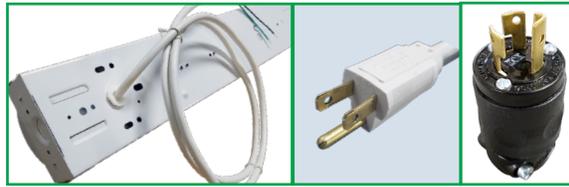
Cords are available in single circuit or dual circuit, 6' or 10'. Standard plug is optional, as are other NEMA configurations if specified.

Wireguards are available for added protection (shipped separately).

Hanging The QC hanging kit (1) comes in 10' or 20'. Cables are pre-looped for easy installation and designed for easy fixture height adjustment. V-hangers and slide hangers are also optional.

Finish in addition to the standard white finish, the ECL G2 is also available in matte black (pictured) and metallic silver.

Controls Summary:

Control Code	Type	Capabilities	Communication
ZSOL	Motion (PIR), Daylight Harvesting	High/Low/Off	Wired 0-10V, Programmable via IR remote (sold separately)
ZLD1	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping	Wired 0-10V, Programmable via Bluetooth App (iOS, Android)
ZLDU	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Scheduling	Wired 0-10V, Programmable via Bluetooth App (iOS, Android)
Z211Lx	Motion (PIR), Photosensor	High/Low/Off, High-End Trim	Wired 0-10V, Programmable via IR remote (sold separately)
Z311Lx	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim	Wired 0-10V, Programmable via Bluetooth App (iOS, Android)
ZOSMD	Motion (Microwave), Photosensor	On/Low/Off	Wired 1-10V
ZSLFC2	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Scheduling, LLLC (Keystone Tech.-SmartLoop)	Wireless Bluetooth Mesh, Programmable via Keystone SmartLoop App for iOS or Android
ZLxS	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Scheduling, Demand Response*, BMS Integration*, LLLC (GreenMAX DRC)	Wireless Zigbee 2.4 GHz Mesh, Programmable via GreenMAX DRC app. for iOS or Android along with DRKDN-UxW Wall Controller (sold separately)
ZLxC	Controller, No Sensors	High/Low/Off, High-End Trim, Grouping, Scheduling, Demand Response*, BMS Integration*, LLLC (GreenMAX DRC)	Wireless Zigbee 2.4 GHz Mesh, Programmable via GreenMAX DRC app. for iOS or Android along with DRKDN-UxW Wall Controller (sold separately)
ZENLC	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Scheduling*, Energy Monitoring*, BMS Integration*, Upgradable to IoT (ZENLI), LLLC (Enlighted IoT)	Wireless Bluetooth Low Energy Mesh, Programmable via Enlighted IoT Software
ZENLI	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Scheduling*, Energy Monitoring*, BMS Integration*, LLLC (Enlighted IoT)*, Space - Building Utilization*, Where - Real Time Location Services*	Wireless Bluetooth Low Energy Mesh, Programmable via Enlighted IoT Software

LLLC = Luminaire Level Lighting Control
* Additional equipment required. Contact LumenFocus representative for details

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Dimming Sensors (Z211/Z311)

- The Wattstopper FSP sensor provides multi-level control based on motion and/or daylight contribution
- Comes pre-installed on the fixture
- Rated for cold locations
- Parameters for Bluetooth-enabled Z311 adjustable via phone app - iOS or Android
- Parameters for Z211 adjustable via wireless configuration tool (FSIR-100 - sold separately)
- Available with black lens for black finishes (pictured right)
- Two lenses available, tailored for the ideal detection area and mounting height:
  - **L2:** 360º lens, maximum coverage 48', diameter from 8' height
  - **L3:** 360º lens, maximum coverage 40', diameter from 20' height

The Wattstopper FSP sensor integrated with the ECL.

FSIR-100

Phone app interface for Z311 sensor

Keystone SmartLoop Wireless Control System

The SmartLoop wireless lighting control system by Keystone is a Bluetooth mesh lighting control system that allows you to set up and manage your lighting ecosystem quickly and easily. It's powerful enough to run a space with multiple lighting zones, but simple enough to program in minutes with your smartphone – perfect for warehouses, offices, schools, and auditoriums, whether new construction or retrofit.

- Wireless Bluetooth 2.4 GHz mesh network
- Supports up to 100 devices on a single region, with unlimited regions
- Independent per-fixture control: Occupancy, Daylight Harvesting, Task Tuning, Grouping, Scene Setting, Scheduling
- Commissioned via SmartLoop mobile app for iPhone and Android

ZSLFC2

- Low voltage individual fixture controller for SmartLoop system
- Integrated daylight and PIR motion sensors
- **Up to 16' mounting height.** 16' radius at 16' height.
- Works with 0-10V dim-to-off drivers with 12V aux. power

SmartLoop Accessories

- Bluetooth Wireless Wall Switch: **KTSL-WS1-B-SG/G2**
  ◦ Battery Powered: 2x CR2032
  ◦ 5 Button: Power Toggle, Dimming, Automatic Sensor/Preset Level Operation, Scene Activation

- USB Time Keeper: **KTSL-TK1-USB**
  ◦ Relays time to system components after a power loss
  ◦ Powered by standard USB charging port
  ◦ Internal CR1220 battery backup

Microwave Occupancy Sensor (ZOSMD)

The Leviton OSM3D-DDW (or equivalent) detects motion through low density materials using high frequency electromagnetic waves. This means it can sit discretely behind the ECL G2's frosted lens. The ZOSMD features automatic switching based on motion and ambient light level. ZOSMD option adds step-dimming functionality - standby dimming level 10% / 20% / 30% / 50%. **Max mounting height for ZOSMD 40 feet.**

Leviton Intellect Solo Dimming Sensor (ZSOL)

The ECL G2 can be equipped with an integrated Leviton Intellect Solo Sensor ("ZSOL" option). This is a 0-10V dimming Passive Infrared (PIR) occupancy and daylight harvesting sensor.

Other features:
• Partial-on
• Partial-off
• **8' to 10' mounting height**
• IP20 rated
• Detection angle: 120 degrees
• IR remote available for programming sensor from the floor (sold separately)
• Can be used to comply with IECC, ASHRAE 90.1 and 2019 Title 24, Part 6 dimming, occupancy/vacancy sensing and daylight harvesting requirements.

Smart Sensors (ZLD1/ZLDU)

The ZLDx option includes high bay and low bay lenses along with aisleway masks that can easily be installed or swapped out in the field. **The high bay lens is good for 20'-40' mounting heights, while the low bay lens is good for 8'-20' mounting heights.**

- Leviton Smart IP66 passive infrared (PIR) sensors
- Features mesh grouping (16 devices per group), occupancy sensing, daylight harvesting, scheduling (for ZLDU only), single-level switching
- Comes pre-installed on the center face of the fixture
- Rated for cold locations
- Configurable through the Leviton Smart Sensor App using a smartphone or other Bluetooth-enabled iOS or Android device

GreenMAX DRC Wireless Networked Control System
with Leviton Intellect Sensors & Controllers

The GreenMAX DRC Wireless Keypad Room Controllers are used as the brain of the system, managing the fixture integrated Leviton Intellect sensors & controllers. Wirelessly commission, configure, control, monitor and provision the GreenMAX DRC system using the GreenMAX DRC App and an Android or iOS smart device.

- Occupancy/Vacancy Sensing
- Multi-Level Lighting, Partial-On, Partial-Off
- Daylight Harvesting
- Task Tuning
- Scheduling
- Grouping
- Demand Response
- BMS Integration
- ZigBee 2.4 GHz Wireless Mesh Network
- Up to 75' between devices

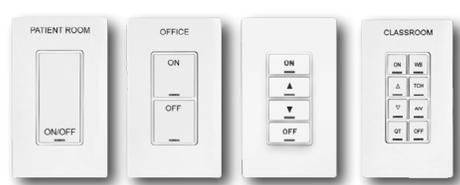** DRKDN-UxW room controller required for full functionality and programming of Intellect sensors & controllers*

ZLxS

- PIR Occupancy Sensor
- Daylight Sensor
- 0-10V or DALI
- **Up to 20' mounting height**

ZLxC

- Wireless fixture controller, no sensor
- 0-10V or DALI

DRKDN-UxW Room Controllers

- 1-, 2-, 4-, and 8-button configurations
- Line voltage powered: 120-277V
- Max capacity: 60 devices
- Programmable: On/Off/Raise/Lower/ Toggle/Scene
- Use any Android or iOS device for configuration using the GreenMAX DRC App

---

Enlighted: All-in-one sensors, upgradeable systems

Enlighted's SMART Micro Sensor is an all-in-one unit: task tuning, high-end trimming, daylight harvesting, and occupancy/vacancy detection. **Max installation height is 15 feet.**

Enlighted Connected ("ZENLC") offers many features, including motion and switch groups, daylight harvesting, energy reporting, and more. The Enlighted IoT ("ZENLI") option allows the full implementation of Enlighted's services. Enlighted Connected can be fully upgraded to the next tier in the future. So if you start with ZENLC but want to add the functionality of the ZENLI option, you can.

Enlighted Capabilities*	Enlighted Connected (ZENLC)	Enlighted IoT (ZENLI)
Motion and Switch Groups	✓	✓
Daylight Harvesting	✓	✓
Schedule Lighting	✓	✓
Energy Reporting & Optimization	✓	✓
Environment Data & Lighting Controls API	✓	✓
Building Management System Integration	✓	✓
Where & Space Applications		✓
Location & Occupancy APIs & Beaconing		✓
Future App & API Ready		✓

Real-time data analytics

Enlighted's control units compile data in real-time, which can be viewed via the Energy Manager. The Energy Manager is part of the Enlighted Connected and Enlighted IoT configurations.

- Real-time measurements and verification of energy savings
- Space analytics - data can be compiled into motion trails and heat maps
- Analyze traffic density and congestion in a space

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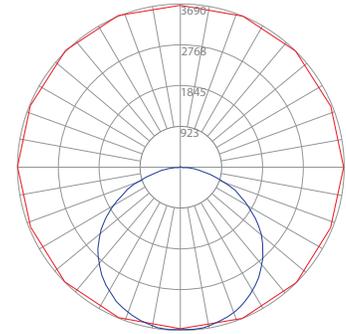
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LUMENFOCUS

Photometric Data:

ECL G2 4 SH UV 950

Test No.: LLIA001735-016
Luminaire Lumens: 11,092 lm
Luminaire Watts: 73.2W
Efficacy: 151.6 LPW
Spacing Criterion (0-180): 1.30
Spacing Criterion (90-270): 1.32

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	26364	25480	25318
55	25916	24719	24038
65	24491	22492	21673
75	20865	17646	16519
85	11718	7923	7122

Coefficients Of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC		80				70				50			30		
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106
1	109	104	100	96	106	102	98	94	97	94	91	93	91	88
2	99	90	83	78	96	88	82	77	85	79	75	82	77	73
3	90	79	71	64	87	77	70	64	74	68	62	72	66	61
4	82	70	61	54	80	68	60	54	66	59	53	64	57	52
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45
6	69	56	47	40	68	55	46	40	53	45	40	51	45	39
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25

Tested in accordance with IES standards utilizing absolute photometry per LM-79-08

— Vert. Plane
— Horiz. Cone

Zonal Lumen Summary

Zone	Lumens	%Fixt
0-20	1356.53	12.20
0-30	2905.02	26.20
0-40	4809.58	43.40
0-60	8701.86	78.50
0-80	10912.54	98.40
0-90	11090.75	100.00
90-120	0.97	0.00
90-130	0.97	0.00
90-150	0.97	0.00
90-180	0.97	0.00
0-180	11091.72	100.00

ECL G2 4 SH UV FR 950

Test No.: LLIA001735-018
Luminaire Lumens: 10,553 lm
Luminaire Watts: 73.0W
Efficacy: 144.6 LPW
Spacing Criterion (0-180): 1.26
Spacing Criterion (90-270): 1.30

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	22229	21400	21380
55	19375	19420	19637
65	15573	16982	17334
75	11302	14513	14676
85	6483	13505	12873

Coefficients Of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC		80				70				50			30		
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105
1	108	103	98	94	105	100	96	92	95	92	89	91	88	86
2	98	89	82	76	95	87	81	75	83	78	73	80	75	71
3	89	78	70	63	86	77	69	63	73	67	61	70	65	60
4	82	69	60	54	79	68	60	53	65	58	52	63	56	51
5	75	62	53	46	73	61	52	46	58	51	45	56	50	44
6	69	56	47	40	67	55	46	40	53	45	39	51	44	39
7	64	51	42	36	62	50	41	35	48	40	35	46	40	35
8	60	46	38	32	58	45	37	32	44	36	31	42	36	31
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25

Tested in accordance with IES standards utilizing absolute photometry per LM-79-08

— Vert. Plane
— Horiz. Cone

Zonal Lumen Summary

Zone	Lumens	%Fixt
0-20	1311.98	12.40
0-30	2790.06	26.40
0-40	4568.43	43.30
0-60	8008.15	75.90
0-80	9982.62	94.60
0-90	10364.20	98.20
90-120	188.48	1.80
90-130	188.48	1.80
90-150	188.48	1.80
90-180	188.48	1.80
0-180	10552.68	100.00