



Calculite LED 4" generation 3 provides an excellent coupling of lighting performance, quality of light, and visual aesthetic. Industry leading visual comfort and uniform illumination make it an ideal choice for office, institution, healthcare, public, and retail applications. Tunable white technology provides dynamic flexibility to fully capture application ambiance and enhance behaviour by supporting biorhythms.

Standard luminaire: Order without BAC option code.

Project: _____

Location: _____

Cat.No: _____

Type: _____

Qty: _____

Notes: _____

Fixture

standard example: C4SDL1596TMZ10UCCW

Series	Mounting	Styles	Lumens	CRI/CCT	Beams	Dimming	Voltage	Reflector finish	Cylinder finish
C4	<input type="checkbox"/>			96T					
C4 Calculite LED 4"	S Surface P Pendant ¹	DL Downlight WW Wall Wash ² DW Double Wall Wash ²	05 500 10 1000 15 1500 20 2000	96T 90CRI / 6500-2700K	N Narrow M Medium	Z10 0-10V 1% D DALI DT8 0.1% DMX Digital Multiplexing w/ RDM 0.1% LTW Lutron T-Series 1% RA Integral Interact Pro RF sensor ³ (enables wireless connected lighting control)	U Universal 120V/277V	CL Specular clear CC Comfort clear CD Comfort clear diffuse CZ Champagne bronze BK Black (anodized) WH White (matte)	W White (matte) B Black (matte) A Aluminum RAL RAL Color ⁴ (standard code)

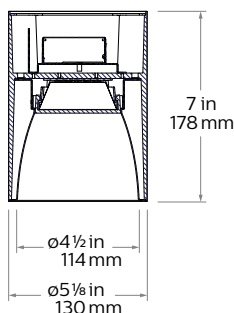
Pendant accessories (field adjustable)¹ example: CASK36BK

Series	Mounts	Length	Finish
CA			
CA Calculite Accessory	SK Stem Kit	36 36 inches 48 48 inches 60 60 inches 72 72 inches	WH White (matte) BK Black (matte) AL Aluminum RAL RAL Color ⁴ (standard code)
	CK Cable Kit (RAL canopy kit will be with black cord)	10 120 inches	(same four color options as above)

- Pendant (P) option needs to be ordered with an accessory.
- Wall Wash (WW) and Double Wall Wash (DW) are only available with Medium (M) beam.
- All configurations require remote recessed driver. See dimensions on page 3 and details on page 2. Contact factory for surface mounted drive pod options.
- RAL standard colors can be specified upon request. Add RAL standard code to (RALxxxx).

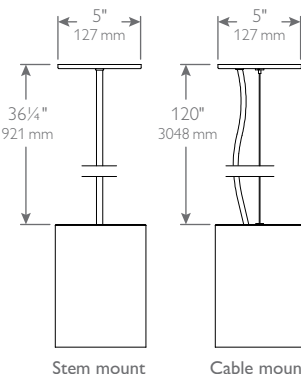
Dimensions

Surface mount



Shown for cylinder only, see page 3 for recessed driver frame dimensions.

Pendant mount



Order the Pendant mount cylinder and select the stem or cable kit.

C4 Calculite LED 4" gen 3

Cylinder

Cylinder

Cylinder housing: Cast aluminum, available for installation onto a 3" or 4" junction box, stem, cable, or wall mounted.

Surface mounting (C4S): Mounts directly to junction box. Listed for wet location use.

Pendant mounting (C4P): Order with the stem or cable kit. Listed for damp location use.

Pendant accessories (damp location rated)

Stem mounting kit: 0.375" diameter steel stem (1/8" National Pipe Thread, can be field cut to required length. 5-wire conductor cable runs alongside of stem for power and dimming. Magnetic attachment of canopy to junction box provides clean look free of hardware. Self-aligning swivel mounting system ensures cylinder hangs straight down. Stem can be cut in field for length adjustment. A 1/8" hole is required to reconnect the pendant stem to the canopy swivel. Swivel accommodates max 45° pitch.

Cable mounting kit: 10' long steel cable with 5-wire cable for power and dimming. Hardware free canopy for clean aesthetics.

Remote drivers

- Available with surface and pendant mounts only
- Requires new construction or accessibility from above for initial installation
- Mains/control wiring in frame junction box
- Connection to light engine in secondary junction box
- Remote driver is accessible from below upon removal of the cylinder
- Requires 19" of space above the ceiling to mount the linear driver to the recessed frame.

Dimming (2-channel)

All configurations are FCC Class A unless otherwise specified. Dimming curves are logarithmic as standard, contact factory for options. All configurations require remote recessed driver.

- 0-10V 1% (Z10)
- DALI DT8 1% (D)
- Digital Multiplexing w/ RDM 1% (DMX)
- Lutron T-Series 1% (LTW)

Optical systems

Comfort throughout the space:

Patented optical system combines primary and secondary optics to provide a true 50° physical cutoff and 45° reflected cutoff virtually eliminating the view of the light source and bright spots in the reflector. A new reflector curve reduces reflector brightness by up to 50% compared to existing products, allowing for the use of higher lumen packages in smaller apertures without creating bright spots in the ceiling.

MesoOptics PET optical diffusion film:

Provides a smooth beam shape and mitigates color over angle with optimized luminaire efficiency. Mitigates LED pixilation.

Quality of light: 3 SDLC ensures color consistency from fixture to fixture and over the luminaire's long lifetime. Proprietary optical grade silicone lens with patterned surface provides soft, even beam diffusion without hotspots or dark rings.

Labels and Listings

- cULus listed for wet locations (surface mount)
- cULus listed for damp locations (pendant mount)
- Red List Declare label certified, ID SIG-0018 ([View full Declare label](#))
- RoHS certified

Warranty



5 year warranty

Indoor Professional Luminaires complete system warranty available at: www.signify.com/warranties

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).



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



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.

C4 Calculite LED 4" gen 3

Cylinder

interact

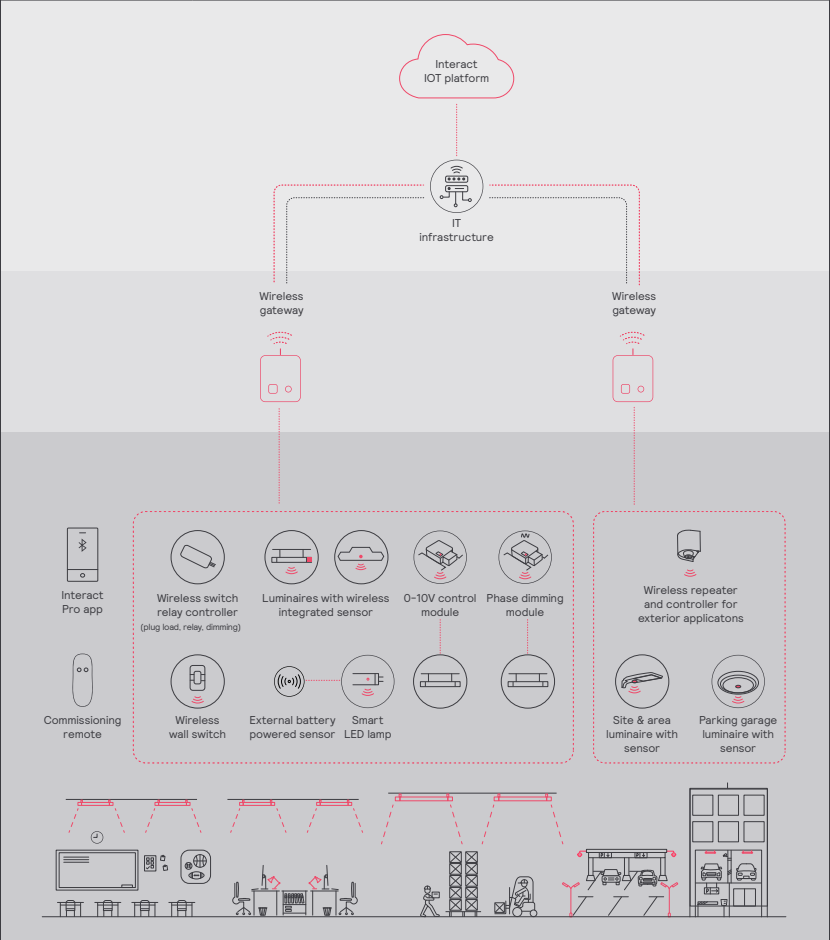
Dimming, grouping, and zoning	
Bluetooth and ZigBee enabled	
Motion sensing and daylight harvesting	
Integration with 0-10V and phase dimming fixtures	
Code compliance	
Granular dimming and dwell time	
Correlated color temperature (CCT) tuning by switch	New
Support for sensor-based Tunable White luminaires	New
Energy reporting and monitoring	
Scheduling	
Demand response	
BMS integration (BACnet)	
Floor plan visualization	
IoT sensors for wellness	
IoT Apps for productivity	

	Gateway Connected		
	Standalone	Option 1	Option 2
Dimming, grouping, and zoning	✓	✓	✓
Bluetooth and ZigBee enabled	✓	✓	✓
Motion sensing and daylight harvesting	✓	✓	✓
Integration with 0-10V and phase dimming fixtures	✓	✓	✓
Code compliance	✓	✓	✓
Granular dimming and dwell time	✓	✓	✓
Correlated color temperature (CCT) tuning by switch	✓	✓	✓
Support for sensor-based Tunable White luminaires	✓	✓	✓
Energy reporting and monitoring		✓	✓
Scheduling		✓	✓
Demand response		✓	✓
BMS integration (BACnet)			✓
Floor plan visualization			✓
IoT sensors for wellness			✓
IoT Apps for productivity			✓

Currently supported maximum system size

To be able to design the lighting system correctly for the customer, it is important to know the prime characteristics of the system, its possibilities and limitations.

System level	
Total number of gateways	Unlimited
Total number of devices	200 per network
• Luminaires with integrated sensors	150
• Smart TLEDs	150
• Zones + groups	64
Total number of ZGP devices (sensors and switches)	50
• Sensors	30
• Switches	50
Group level	
Recommended number of lights	40 (maximum 150)
Number of ZGP devices	5
Number of scenes	16



C4 Calculite LED 4" gen 3

Cylinder

Wireless controls options

Interact

- SWZCS is a connected sensor with integral occupancy and daylight sensing and supports wireless mesh connectivity.
- The sensor works in the standalone mode (similar to SpaceWise) when configured without a gateway or in a cloud connected mode if a compatible gateway is used.
- Interact includes an App, a portal and a broad portfolio of wireless luminaires, lamps and retrofit kits all working on the same system.
- Startup is implemented via Interact Pro App (Android or iPhone) & Bluetooth connectivity. The App provides flexibility to choose between a gateway or non gateway mode for setup.
- Setup with the gateway requires wired internet access to the gateway. It is possible to add a gateway at a later point.
- Prepare project configuration steps remotely and use IRT9015 remote on-site to identify and group devices together.

Compatible with:

- SWS200 & UID8465 wireless scene switch
- Battery powered IP42 presence sensor OCC sensor IA CM WH 10/1
- Battery powered IP42 presence & daylight sensor OCC-DL sensor IA CM IP42 WH
- LCN3110: battery powered IP65 presence sensor, OCC sensor IA CM IP65W
- LCN3120: battery powered IP65 presence & daylight sensor, OCC-DL sensor IA CM IP65 WH
- For more information on Interact visit:
interact-lighting.com/interactproscalablesystem

Radio only sensor (RA or RADIO)

- Integral RA or RADIO only sensor simply enables wireless mesh connectivity to the luminaire without any occupancy or daylight sensing.
- Ideal for applications where sensing functionality is managed by other Interact devices and the luminaire only needs to have wireless connectivity.
- Interact includes an App, a portal and a broad portfolio of wireless luminaires, lamps and retrofit kits all working on the same system.
- Startup is implemented via Interact Pro App (Android or iPhone) & Bluetooth connectivity. The App provides flexibility to choose between a gateway or non-gateway mode for setup.
- Setup with the gateway requires wired internet access to the gateway. It is possible to add a gateway at a later point.
- Prepare project configuration steps remotely, identify and group devices together onsite.
- Compatible with SWS200 and UID8465 wireless scene switch, wireless Occ sensor (OCC SENSOR IA CM IP42 WH 10/1) and wireless Day/Occ sensor (OCC MULTI SENSOR IA CM WH 10/1).
- For more information on Interact visit:
interact-lighting.com/interactproscalablesystem

Sensor bundle (IAOSB or SB)

- A wireless IoT connected lighting solution for large enterprises that span across multiple floors, buildings and require multiple gateways.
- View all your projects under one dashboard and easily compare insights from multiple projects in one view.
- Compatible with SWS200 wireless scene switch, wireless Occ sensor (OCC SENSOR IA CM IP42 WH 10/1) and wireless Day/Occ sensor (OCC MULTI SENSOR IA CM WH 10/1) and wireless Occupancy or Daylight & Occupancy sensors available. Use Interact software and insights to increase building efficiency, achieve building wide integration and optimize space through occupancy analytics.
- IAOSB or SB option in addition to occupancy and daylights sensing supports advanced IoT capabilities, such as people estimation analysis, desk level temperature & humidity sensing, noise classification, and BLE beacon.
- Requires compatible Gateway and internet connectivity for commissioning.
- For more information, visit:
interact-lighting.com/interactproscalablesystem

Emergency Options (ER100)

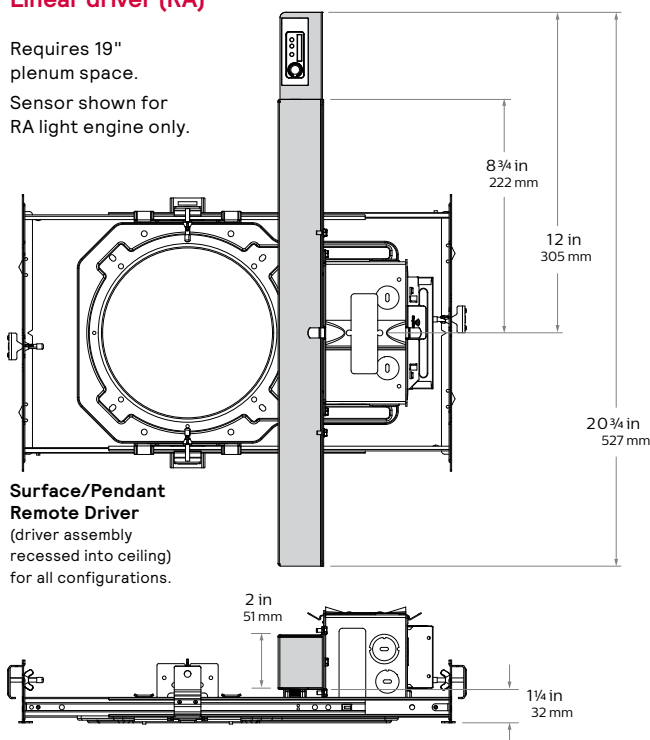
- **Power Sensing** (factory default) – Recommended UL924 option requires unswitched power sense line, absence of voltage on the normal circuit triggers luminaire to 100% output.
- **Power Interruption Detection** (field option) – Detects AC power interruption >30ms triggers 90 minute emergency mode with luminaire at 100% output.

C4 Calculite LED 4" gen 3

Cylinder

Linear driver (RA)

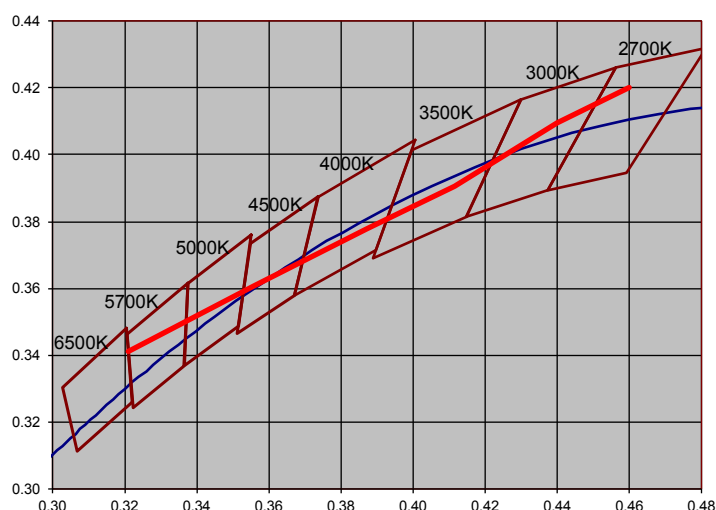
Requires 19" plenum space.
Sensor shown for RA light engine only.



Surface/Pendant Remote Driver
(driver assembly recessed into ceiling) for all configurations.

Electrical

Light engine	Input Volts	Input Freq.	90CRI, 2700K		90CRI, 6500K	
			Input Current	Input Power	Input Current	Input Power
C4L05	120V	50/60Hz	0.060A	7.1W	0.049A	5.9W
	277V	50/60Hz	0.027A	7.5W	0.023A	6.3W
C4L10	120V	50/60Hz	0.111A	13.3W	0.093A	11.1W
	277V	50/60Hz	0.049A	13.5W	0.041A	11.4W
C4L15	120V	50/60Hz	0.177A	21.2W	0.145A	17.4W
	277V	50/60Hz	0.077A	21.3W	0.063A	17.5W
C4L20	120V	50/60Hz	0.246A	29.5W	0.202A	24.2W
	277V	50/60Hz	0.106A	29.5W	0.087A	24.2W



Dimming & Beam Charts

C4RTW	Dimming					Beam	
	Lumens	Z10	D	DMX	LTW	RA	M
500	L	L	L	—	L	X	X
1000	L	X	L	X	L	X	X
1500	L	X	L	X	L	X	X
2000	L	X	L	X	L	X	X

Lifetime (TM-21) data

Lumens	Narrow beam	Medium/Wide beam
500/1000/1500lm	L85 @ 55,000hrs.	L90 @ 60,000hrs.
2000lm	L85 @ 55,000hrs.	L80 @ 60,000hrs.

Lumens

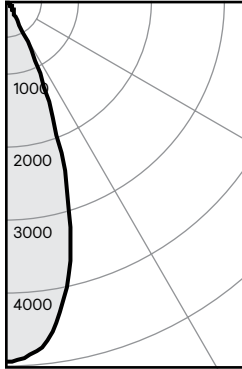
Light engine	Beam	90CRI, 2700K		90CRI, 2700K		90CRI, 2700K		90CRI, 2700K		90CRI, 2700K		90CRI, 6500K	
		Input Current	Input Power	Input Current	Input Power	Input Current	Input Power	Input Current	Input Power	Input Current	Input Power	Input Current	Input Power
500m	Narrow (N)	596	83	590	85	582	88	576	90	567	92	560	95
	Medium (M)	529	74	523	76	516	78	509	79	500	82	493	83
1000m	Narrow (N)	1097	82	1091	85	1084	87	1079	90	1071	93	1065	96
	Medium (M)	974	73	968	75	960	77	954	79	944	82	938	84
1500m	Narrow (N)	1664	79	1657	81	1647	84	1638	86	1626	90	1618	93
	Medium (M)	1479	70	1470	72	1458	74	1449	76	1435	79	1425	82
2000m	Narrow (N)	2181	74	2178	76	2173	80	2170	83	2164	87	2160	89
	Medium (M)	1938	66	1932	68	1925	71	1918	73	1909	76	1903	79

C4 Calculite LED 4" gen 3

Cylinder

Narrow beam (4000 K), 1500lm Engine, 87lm/W at 19W

Candela Curve



4RN / C4L1596TN / C4RDLCL

Output lumens: 1662 lms
Input watts: 19.2 W
CRI: 90 min
CCT¹: 4000K
Spacing Crit.: 0.64
Beam Angle: 38°

Zonal summary

Zone	Lumens	%Luminaire
0-30	1501	90.3%
0-40	1605	96.6%
0-60	1658	99.8%
0-90	1662	100.0%

Angle	Mean CP	Lumens
0	3929	
5	3832	
10	3440	353
15	2750	
20	1761	737
25	883	
30	313	411
35	150	
40	115	104
45	61	
50	14	47
55	7	
60	4	6
65	3	
70	2	3
75	1	
80	0	1
85	0	
90	0	0

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
8'	61	5.1'
9'	49	5.8'
10'	39	6.4'
12'	27	7.7'
14'	20	9.0'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq. ft.
5'	78.0	0.85
6'	51.0	0.56
7'	37.0	0.40
8'	30.0	0.33
9'	24.0	0.27

38' x 38' x 10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Efficiency: 86.6lm/W
Report²: STMR-2476

Adjustment factors

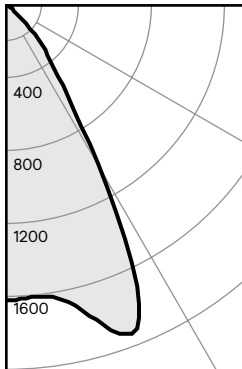
Finish	Lumens
CL = 100%	2000lm = 133%
CC = 95%	1500lm = 100%
CD = 87%	1000lm = 67%
CZ = 63%	500lm = 33%
WH = 87%	
BK = 57%	

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
Wall	70	50	30	10	50	10	50	10	50	10	0	
RCR	Zonal cavity method - Effective floor reflectance = 20%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
	1	114	112	110	108	110	106	106	103	102	100	95
	2	110	106	103	100	104	99	101	96	98	94	91
	3	106	100	96	93	99	92	97	91	94	90	87
	4	102	96	91	88	94	87	92	86	91	85	83
	5	98	91	86	83	90	83	89	82	87	81	79
	6	94	87	82	79	86	79	85	78	84	78	76
	7	91	83	79	75	83	75	82	75	81	74	73
	8	88	80	75	72	80	72	79	71	78	71	70
	9	85	77	72	69	76	69	76	69	75	68	67
10	82	74	69	66	74	66	73	66	72	66	65	

Medium beam (2700 K), 1500lm Engine, 73lm/W at 21W

Candela Curve



4RN / C4L1596TM / C4RDLCL

Output lumens: 1514 lms
Input watts: 20.8 W
CRI: 90 min
CCT¹: 2700K
Spacing Crit.: 1.1
Beam Angle: 54°

Zonal summary

Zone	Lumens	%Luminaire
0-30	1112	73.4%
0-40	1402	92.6%
0-60	1509	99.7%
0-90	1514	100.0%

Angle	Mean CP	Lumens
0	2076	
5	2060	
10	2064	123
15	2225	
20	2496	404
25	2176	
30	1206	585
35	705	
40	488	290
45	212	
50	19	97
55	5	
60	3	10
65	2	
70	1	4
75	1	
80	0	1
85	0	
90	0	0

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	83	5.5'
6'	58	6.6'
7'	42	7.7'
8'	32	8.8'
9'	26	9.9'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq. ft.
5'	69.0	0.92
6'	45.0	0.60
7'	32.0	0.43
8'	27.0	0.36
9'	22.0	0.29

38' x 38' x 10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Efficiency: 72.8lm/W
Report²: STMR-2482

Adjustment factors

Finish	Lumens
CL = 100%	2000lm = 133%
CC = 95%	1500lm = 100%
CD = 87%	1000lm = 67%
CZ = 63%	500lm = 33%
WH = 87%	
BK = 57%	

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
Wall	70	50	30	10	50	10	50	10	50	10	0	
RCR	Zonal cavity method - Effective floor reflectance = 20%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
	1	113	110	108	105	108	104	104	101	100	98	93
	2	107	102	98	94	100	93	97	91	94	89	86
	3	101	95	90	85	93	85	91	83	88	82	79
	4	96	88	82	78	87	77	85	76	83	75	73
	5	91	82	76	71	81	71	79	70	77	70	67
	6	86	76	70	65	75	65	74	65	72	64	62
	7	81	71	65	60	71	60	69	60	68	60	58
	8	77	67	60	56	66	56	65	56	64	55	54
	9	73	62	56	52	62	52	61	52	60	51	50
	10	69	59	52	48	58	48	57	48	56	48	46

1. Correlated Color Temperature within specs as defined in ANSI_NEMA_ANSLG 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.