LIGHTOLIER
by signify

Downlighting

Calculite 3"

C3SDL Square downlight

Calculite 3" features industry leading visual comfort, excellent uniform illumination over time, and patented installation flexibility.

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

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

Frame

example: 3SN

Series	Installation	Voltage / Options	
3S			
3S Uniframe 3" square frame	**N** New construction	**–** Universal (120V/277V) **EM** Emergency (see pg 2 for details & limitations)[1] **IP** Interact Pro ready (for 0-10V engine only)[2]	**LC** Chicago plenum **3** 347V (not compatible with ELV dimming) **3IP** 347V with Interact Pro (for 0-10V engine only)[2]
	A AirSeal IC (1000lm max)	**–** Standard universal (120V/277V)[3]	**S** Shallow universal (120V/277V)[3]
	Note: For remodeler installations, order light engine and trim only (no frame needed)		

Engine

example: C3L10930SZ10US

Series	Lumens	CRI	CCT	Beam	Dimming	Voltage	Plenum
C3L		**9**					
C3L Calculite 3" light engine	**05** 500lm **07** 750lm **10** 1000lm **15** 1500lm **18** 1800lm	**9** 90CRI	**27** 2700K **30** 3000K **35** 3500K **40** 4000K	**S** Square (determined by trim)	**Z10** 0-10V 1% **L** Lutron PEQ0 (Dim to 0.1%)	**U** Universal 120V/277V/347V	**–** Standard
					E ELV	**1** 120V	
	10 1000lm	**9** 90CRI	**D2W** 3000K-1800K[4]				
	07 750lm **10** 1000lm	**9** 90CRI	**27** 2700K **30** 3000K **35** 3500K **40** 4000K	**S** Square (determined by trim)	**Z10** 0-10V 1%	**U** Universal 120V/277V/347V	**R** Remodeler[5] **S** Shallow[3]
					E ELV	**1** 120V	

Trim

example: C3SDLWCCF

Series	Style	Beam	Reflector	Flange	Type
C3S	**DL**				
C3S Calculite 3" square trim	**DL** Downlight (for remodeler & new construction)	**N** Narrow (33°) **M** Medium (59°) **W** Wide (71°)	**CL** Specular clear **CC** Comfort clear **CD** Comfort clear diffuse	**–** White (matte) **F** Flangeless[6]	**–** Standard depth with 50° cutoff
			BK Black (anodized)	**B** Black (matte) **F** Flangeless[6]	
			WH White (matte)	**–** White (matte) **F** Flangeless[6]	
			WT Textured white (painted) **BT** Textured black (painted) **BZ** Bronze (painted) **D** Aluminum diffuse (painted)	**P** Matching refelctor **F** Flangeless[6]	**S** 1" regress cast aluminum (wide beam only)

Accessories

CA3SFT Mud-in ring for use in square flangeless trim installations (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 products)

1. 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).
2. InterAct Pro requires above ceiling access.
3. Must order shallow IC frame, shallow engine for complete shallow assembly. Standard depth trims are compatible with shallow frame.
4. Dim to Warm (D2W) engines are for Non-IC (N) frames only.
5. For remodeler installations, order light engine and trim only (no frame needed).
6. Flangeless (F) trims require CA3SFT mud-in accessory for installation.

c UL us LISTED
WET LOCATION
ENERGY STAR
interact ready.

C3SDL Calculite 3"

Square downlight

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

- Advance 0-10V 1% dimming
- Lutron PEQ0 Hi-lume Premier 0.1% EcoSystem
- ELV (consult factory)

Optical systems

Comfort throughout the space:
True 50° physical cutoff

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

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.

Interact Pro (IAP)

- 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.

Options and accessories

Flangeless mud-in ring: Use **CA3SFT** for use with flangless plaster installations.

ENERGY STAR® exceptions

- Dim to Warm configurations
- CD, WH, BK standard reflectors
- 347V & Emergency voltage/options

Title 24 exceptions

- BK, WH and CD finishes
- Must be installed in shallow AirSeal frame

Labels and listings

- cULus listed for wet 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.

0-10V electrical tables

Light engine	Input volts	Input current	Drive current	Input power
C3L05_Z10U	120 V	0.06 A	150 mA	7.0 W
	277 V	0.02 A		
C3L07_Z10U	120 V	0.08 A	220 mA	9.5 W
	277 V	0.03 A		
C3L10_Z10U	120 V	0.12 A	330 mA	13.6 W
	277 V	0.05 A		
C3L15_Z10U	120 V	0.16 A	450 mA	18.6 W
	277 V	0.07 A		
C3L18_Z10U	120 V	0.17 A	500 mA	20.4 W
	277 V	0.07 A		
C3L07_Z10US C3L07_Z10UR	120 V	0.08 A	220 mA	9.4 W
	277 V	0.03 A		
C3L10_Z10UR C3L10_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
C3L05_E1	120 V	0.05 A	150 mA	5.4 W
	277 V	0.02 A		
C3L07_E1	120 V	0.08 A	220 mA	8.7 W
	277 V	0.03 A		
C3L10_E1	120 V	0.11 A	330 mA	13.2 W
	277 V	0.05 A		
C3L15_E1	120 V	0.15 A	450 mA	17.4 W
	277 V	0.06 A		
C3L18_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	13.2 W
	277 V	0.05 A		

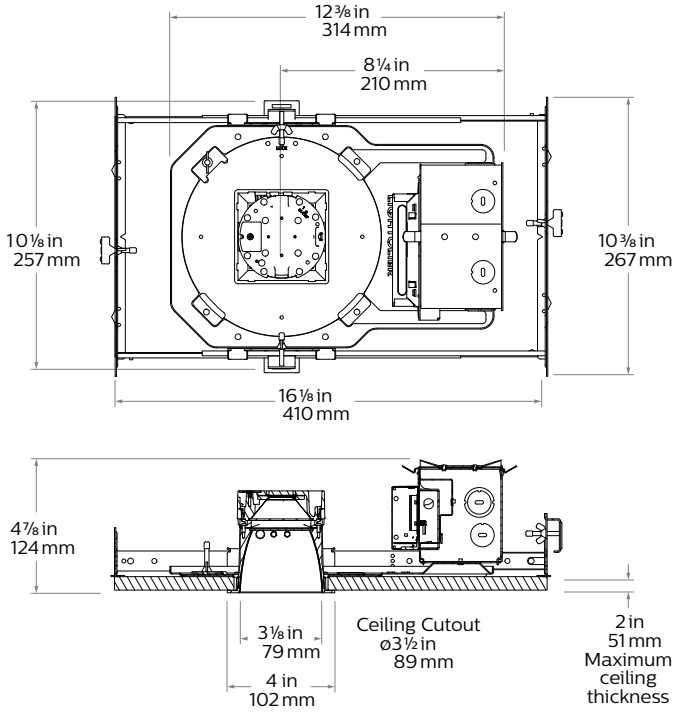
Lutron electrical tables

Light engine	Input volts	Input current	Drive current	Input power
C3L05_LU	120 V	0.06 A	150 mA	6.2 W
	277 V	0.02 A		
C3L07_LU	120 V	0.08 A	220 mA	8.8 W
	277 V	0.03 A		
C3L10_LU	120 V	0.12 A	330 mA	13.0 W
	277 V	0.05 A		
C3L15_LU	120 V	0.15 A	450 mA	17.7 W
	277 V	0.06 A		
C3L18_LU	120 V	0.17 A	500 mA	19.8 W
	277 V	0.07 A		

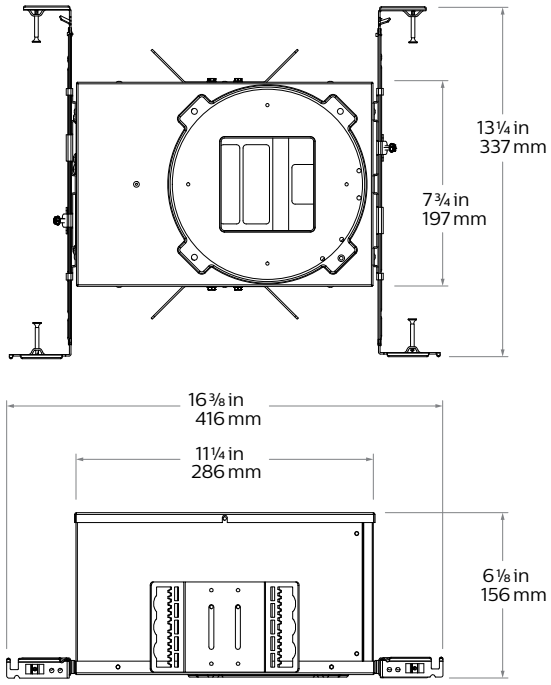
C3SDL Calculite 3"

Square downlight

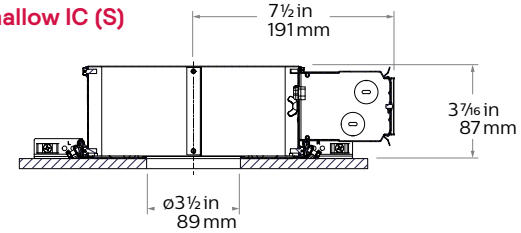
New construction (N)



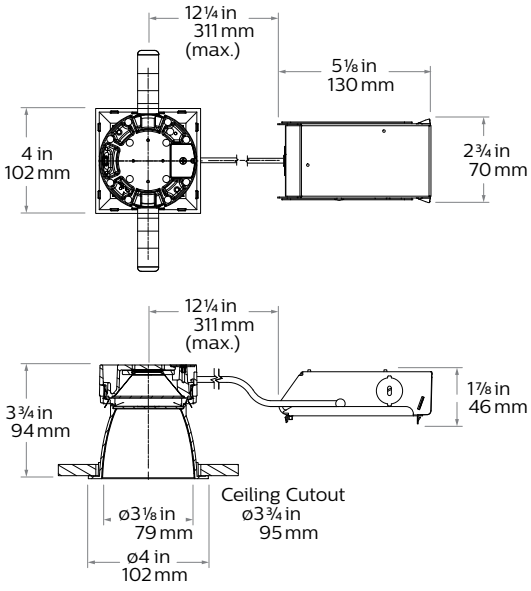
Standard IC (A) and Chicago plenum (LC)



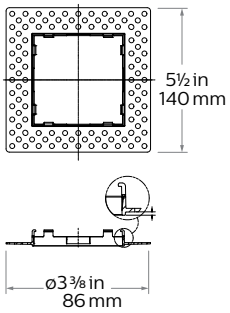
Shallow IC (S)

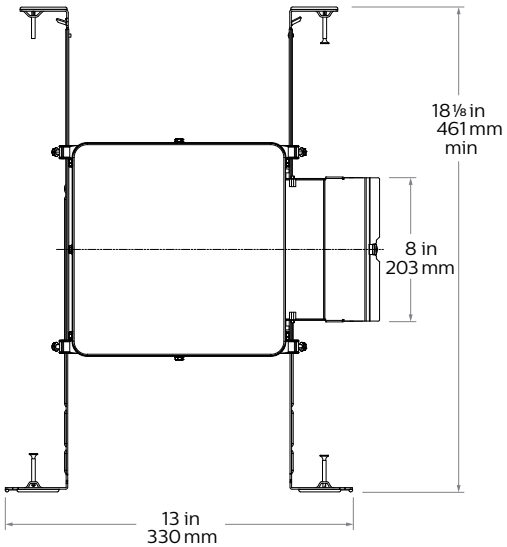


Remodeler (R)



Flangeless mud-in ring (CA3SFT) accessory



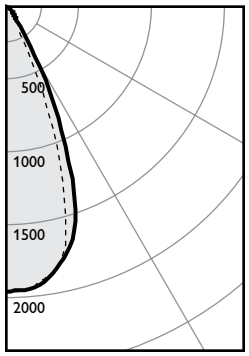


C3SDL Calculite 3"

Square downlight

Narrow beam (standard), 1000lm engine, 76.9 lm/W at 14W

Candela Curve



Frame: **3SN**
Engine: **C3L10935SZ10U**
Trim: **C3SDLNCC**

Output lumens:	1077 lms
Input watts:	14 W
CRI:	90 min
CCT[1]:	3500K
Spacing Crit.:	0.69

Zonal summary

Zone	Lumens	%Luminaire
0-30	914	84.9%
0-40	1010	93.8%
0-60	1070	99.4%
0-90	1077	100.0%

H/V	0	45	90
0	1950	1953	1949
5	1949	1940	1920
15	1635	1717	1574
25	468	839	397
35	148	147	141
45	63	58	53
55	13	9	13
65	5	4	5
75	2	2	2
85	0	1	1
90	0	0	1

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	78	3.5'
6'	54	4.1'
7'	40	4.8'
8'	30	5.5'
9'	24	6.2'

* 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'	50.0	0.62
6'	33.0	0.41
7'	23.0	0.29
8'	20.0	0.24
9'	16.0	0.19

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

Efficacy: 76.9 lm/w
Report[2]: 1784GFR

Adjustment factors

Tall cone	Shallow cone	CCT	Lumens
CL = 110%	WT = 107%	90CRI 4000K = 104%	1800lm = 142%
CC = 100%	WH = 105%	90CRI 3500K = 100%	1500lm = 130%
CD = 88%	D = 100%	90CRI 3000K = 96%	1000lm = 100%
WH = 88%	BZ = 81%	90CRI 2700K = 90%	750lm = 70%
BK = 65%	BK = 79%		500lm = 50%
	BT = 77%		

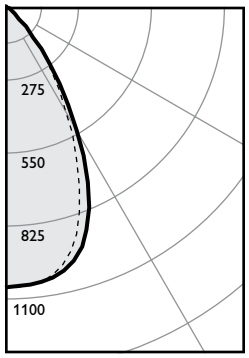
Coefficients of utilization

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%										
0	119	119	119	119	116	116	111	111	106	106	100
1	114	112	109	107	109	106	105	102	102	99	95
2	109	105	101	98	103	97	100	95	97	93	89
3	105	99	94	91	98	90	95	89	93	87	85
4	100	93	89	85	92	84	90	83	88	82	80
5	96	89	84	80	88	79	86	79	84	78	76
6	92	84	79	75	84	75	82	75	81	74	72
7	88	80	75	71	80	71	78	71	77	70	69
8	85	77	71	68	76	68	75	67	74	67	66
9	82	73	68	65	73	65	72	64	71	64	63
10	79	70	65	62	70	62	69	61	68	61	60

Room Cavity Ratio

Medium beam (standard), 1000lm engine, 73.8 lm/W at 14W

Candela Curve



Frame: **3SN**
Engine: **C3L10935SZ10U**
Trim: **C3SDLMCC**

Output lumens:	996 lms
Input watts:	13.5 W
CRI:	90 min
CCT[1]:	3500K
Spacing Crit.:	0.88

Zonal summary

Zone	Lumens	%Luminaire
0-30	681	68.4%
0-40	888	89.2%
0-60	988	99.2%
0-90	996	100.0%

H/V	0	45	90
0	1941	1945	1941
5	1941	1933	1914
15	1620	1711	1573
25	461	835	403
35	148	146	141
45	62	58	54
55	13	9	13
65	5	4	5
75	2	2	2
85	0	1	1
90	0	0	1

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	42	4.4'
6'	29	5.3'
7'	22	6.2'
8'	17	7.0'
9'	13	7.9'

* 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'	45.0	0.60
6'	30.0	0.39
7'	21.0	0.28
8'	18.0	0.23
9'	14.0	0.19

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

Efficacy: 73.8 lm/w
Report[2]: F41038GFR

Adjustment factors

Tall cone	Shallow cone	CCT	Lumens
CL = 110%	WT = 107%	90CRI 4000K = 104%	1800lm = 142%
CC = 100%	WH = 105%	90CRI 3500K = 100%	1500lm = 130%
CD = 88%	D = 100%	90CRI 3000K = 96%	1000lm = 100%
WH = 88%	BZ = 81%	90CRI 2700K = 90%	750lm = 70%
BK = 65%	BK = 79%		500lm = 50%
	BT = 77%		

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%										
0	119	119	119	119	116	116	111	111	106	106	100
1	113	111	108	106	108	105	105	101	101	98	94
2	108	103	98	95	101	95	99	92	96	91	88
3	102	95	90	86	94	87	93	84	90	85	82
4	97	89	83	79	88	81	87	78	85	79	76
5	92	83	77	73	82	75	82	72	81	74	71
6	87	78	72	67	77	70	78	67	76	69	67
7	82	73	67	63	72	65	73	62	72	65	63
8	78	69	63	58	68	61	70	58	69	61	59
9	75	65	59	55	64	58	66	54	65	57	56
10	71	61	55	51	61	54	63	51	62	54	53

Room Cavity Ratio

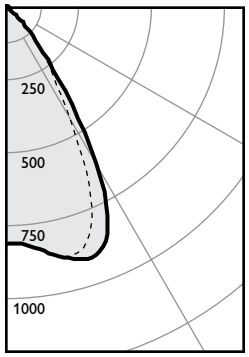
1. Correlated Color Temperature within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.
2. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State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

C3SDL Calculite 3"

Square downlight

Wide beam (standard), 1000lm engine, 68.3 lm/W at 14W

Candela Curve



Frame: **3RN**
Engine: **C3L10935SZ10U**
Trim: **C3SDLWCC**

Output lumens:	956 lms
Input watts:	14 W
CRI:	90 min
CCT[1]:	3500K
Spacing Crit.:	1.02

Zonal summary

Zone	Lumens	%Luminaire
0-30	660	69.0%
0-40	856	89.5%
0-60	948	99.2%
0-90	956	100.0%

H/V	0	45	90
0	811	811	810
5	819	818	819
15	873	887	871
25	679	815	641
35	267	351	258
45	94	94	83
55	17	14	16
65	6	4	6
75	2	2	2
85	0	1	1
90	0	0	1

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	32	5.1'
6'	23	6.1'
7'	17	7.1'
8'	13	8.2'
9'	10	9.2'

* 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'	43.0	0.62
6'	28.0	0.41
7'	20.0	0.29
8'	17.0	0.24
9'	14.0	0.19

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

Efficacy: **68.3lm/w**
Report[2]: 1781GFR

Adjustment factors

Tall cone	Shallow cone	CCT	Lumens
CL = 110%	WT = 107%	90CRI 4000K = 104%	1800lm = 142%
CC = 100%	WH = 105%	90CRI 3500K = 100%	1500lm = 130%
CD = 88%	D = 100%	90CRI 3000K = 96%	1000lm = 100%
WH = 88%	BZ = 81%	90CRI 2700K = 90%	750lm = 70%
BK = 65%	BK = 79%		500lm = 50%
	BT = 77%		

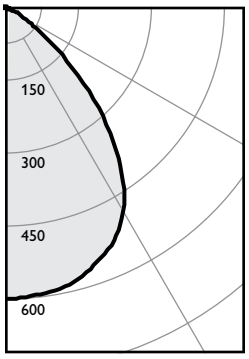
Coefficients of utilization

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%										
0	119	119	119	119	116	116	111	111	106	106	100
1	113	110	108	106	108	104	104	101	101	98	93
2	107	102	98	95	101	94	98	92	95	90	86
3	102	95	90	86	94	86	91	84	89	83	80
4	96	89	83	78	87	78	86	77	84	77	74
5	91	83	77	72	82	72	80	71	79	71	69
6	86	77	71	67	76	67	75	66	74	66	64
7	82	72	66	62	72	62	71	61	70	62	60
8	78	68	62	57	67	58	67	57	66	58	56
9	74	64	58	54	63	55	63	53	62	54	53
10	70	60	54	50	60	51	60	50	59	51	49

Room Cavity Ratio

Wide beam (shallow), 1000lm engine, 73.1 lm/W at 14.1W

Candela Curve



Frame: **3RN**
Engine: **C3L10935SZ10U**
Trim: **C3SDLWDS**

Output lumens:	1031 lms
Input watts:	13.6 W
CRI:	14.1 min
CCT[1]:	3500K
Spacing Crit.:	1.2

Zonal summary

Zone	Lumens	%Luminaire
0-30	515	48.0%
0-40	783	72.9%
0-60	1037	96.6%
0-90	1074	100.0%

Angle	Mean CP	Lumens
0	597	
5	592	60
10	588	
15	570	162
20	553	
25	518	240
30	481	
35	409	253
40	334	
45	237	174
50	151	
55	85	70
60	52	
65	28	28
70	11	
75	5	6
80	3	
85	1	1
90	0	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	24	6.0'
6'	17	7.2'
7'	12	8.4'
8'	9	9.6'
9'	7	10.8'

* 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'	45.0	0.62
6'	30.0	0.41
7'	21.0	0.29
8'	18.0	0.24
9'	14.0	0.20

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

Efficacy: **73.1lm/w**
Report[2]: 1785GFR

Adjustment factors

Tall cone	Shallow cone	CCT	Lumens
CL = 105%	WT = 112%	90CRI 4000K = 104%	1800lm = 142%
CC = 100%	WH = 110%	90CRI 3500K = 100%	1500lm = 130%
CD = 80%	D = 100%	90CRI 3000K = 96%	1000lm = 100%
WH = 80%	BZ = 77%	90CRI 2700K = 90%	750lm = 70%
CZ = 78%	BK = 75%		500lm = 50%
BK = 40%	BT = 74%		

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%										
0	119	119	119	119	116	116	111	111	106	106	100
1	112	109	105	103	106	101	102	98	98	95	90
2	105	98	93	89	97	88	93	86	90	84	80
3	97	89	83	78	88	78	85	76	83	75	72
4	91	81	75	69	80	69	78	68	76	67	64
5	85	74	67	62	73	61	71	61	70	60	58
6	79	68	61	55	67	55	66	55	64	54	52
7	74	63	55	50	62	50	61	50	59	49	47
8	70	58	51	46	57	46	56	45	55	45	43
9	65	54	47	42	53	42	52	41	51	41	39
10	62	50	43	38	49	38	48	38	48	38	36

Room Cavity Ratio

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.

The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract.

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