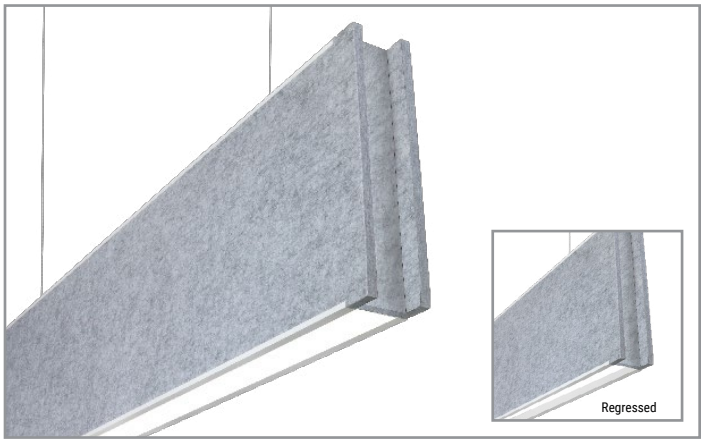
Project		Catalog #		Type	
Prepared by		Notes		Date	



Neo-Ray

Define 2 Acoustic

2" LED
Direct/Indirect
Suspended Pendant

Typical Applications

Office • Education • Healthcare • Hospitality • Retail

Interactive Menu

Product Certification

Product Features

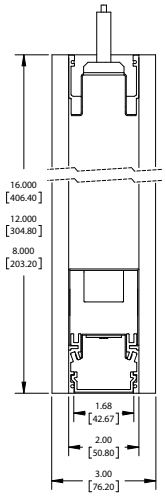
damp location

powered by fifthlight

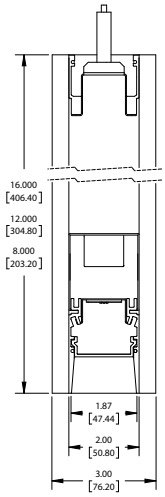
Top Product Features

- Suspended Acoustic Slot family in 2" and 4" housing sizes, compatible with the Neo-Ray Define Series
- Available in 4ft incremental lengths including continuous runs with 8”, 12” and 16” heights
- Flush and Regressed options available
- Satin, Asymmetric direct and Drop and Batwing indirect options available
- Independently specifiable Direct / Indirect lumen packages
- 2700K, 3000K, 3500K, 4000K, and 5000K correlated color temperatures available

Dimensional Detail



SA2xxDP Flush



SA2xxRDP 1” Regressed

additional product diagrams

Order Information

Icon Key: Ø Consult factory for availability

SAMPLE ORDER NUMBER: **SA212RDIP-C675D725U835-C4TS8F0-1-UDD-F4-B-S3W1-SWPD1**

Series	Distribution	Light Engine	Lumen Package Down (Lms/ft)	Lumen Package Up (Lms/ft)	CRI	LED CCT	Suspension Type	Ceiling Type
SA208=Define 2 Acoustic, 8" Height **SA212**=Define 2 Acoustic, 12" Height **SA216**=Define 2 Acoustic, 16" Height	**DIP**= Direct / Indirect Pendant **RDIP**= 1" Regressed Direct / Indirect Pendant	**-C**=Core	**290D**=290 Lms/ft (2.9W/ft) **485D**=485 Lms/ft (4.8W/ft) **675D**=675 Lms/ft (6.7W/ft) **865D**=865 Lms/ft (8.8W/ft) **1005D**=1005 Lms/ft (10.6W) **____D**=Custom Lms/ft Ø	**330U**=330 Lms/ft (2.2W/ft) **530U**=530 Lms/ft (3.6W/ft) **725U**=725 Lms/ft (5.0W/ft) **925U**=925 Lms/ft (6.6W/ft) **1080U**=1080 Lms/ft (7.9W) **____U**=Custom Lms/ft Ø	**8**=80 **9**=90	**27**=2700K **30**=3000K **35**=3500K **40**=4000K **50**=5000K	**-C4**=4ft Aircraft Cable **-C10**=10ft Aircraft Cable **-C20**=20ft Aircraft Cable **-S4**=4ft Stem Mount **-S8**=8ft Stem Mount	**JB**=Gypsum Board, Junction Box, Structure **T1**=15/16" T-Grid (ETG) **T9**=9/16" T-Grid (FTG) **TS**=9/16" Slot (STG), Tegular (FTT), Interlude (ITG)
Notes	**Notes** RDIP regress of 1" does not increase fixture height.	**Notes**	**Notes** 3500K/80CRI/DIP/F Lens. Please refer to scaling data for other variables. For custom lumen output, please refer to additional information on page 3.	**Notes** 3500K/80CRI/No Lens. Please refer to scaling data for other variables. For custom lumen output, please refer to additional information on page 3.	**Notes** Additional lead-time and cost may apply for 927, 930, 935 and 940 configurations.		**Notes**	**Notes**

Mounting HW Color	Luminaire Length (Ft)	Circuiting	Additional Section Wiring	Voltage	Driver Type	Shielding Down
(blank)=White **B**=Black	**4F 0** = 4ft Length **8F 0** = 8ft Length **____F 0** = Continuous Run (4ft incremental)	**-1**=Single Circuit **-2**=Dual Circuit **-S**=Secondary Circuit	**E**=Emergency Circuit **B3**=6W UNV integral **T**=UL924 EPC Emergency Bypass Relay	**-U**=Universal (120V-277V) **-1**=120V **-2**=277V **-3**=347V	**DD**=Standard 0-10V Dimming (1%-100%) **5L**=Fifth Light DALI (1%-100%) **LH**=Lutron HiLume (LDE1) 1%-100% EcoSys	**-F**=Satin White Diffuser **-D**=Satin Drop diffuser **-A**=Asymmetric Diffuser
Notes White mounting hardware standard	**Notes** Minimum fixture length is 4ft. Specify in 4ft incremental lengths. 8ft max section length.	**Notes** Dual circuit will provide separate Up/Down control. Secondary circuit similar to A/B switching. Price adder applies for "S" configuration.	**Notes** Battery available on fixture ≥ 4ft in length. B3 and T options not compatible with 347V. Standard battery 4ft battery section located in the beginning of the fixture, but can be relocated using the linear product configurator.	**Notes** Native 347V only available with DD driver option.	**Notes** DD driver is standard. For non-dimming applications, the driver will default to full brightness if no connection is made to the capped dimming wires in the field.	**Notes** All lensing options are snap-in lenses.

Shielding Up	Options	Fixture Body Finish	Acoustic Panel Color	Fixture End Cap	Integrated Sensor
(blank)=No Lens or N/A **1**=Satin White Lay-in Diffuser 4=Batwing optic	**-R**=GLR Fuse (Fast) **-F**=GMF Fuse (Slow)	**-W**=White **-S**=Silver **-B**=Black **-R**=RAL Custom	**-S1**=White (White) **-S2**=Acacia (Med Grey) **-S3**=Asche (Dark Grey) **-S4**=Midnight (Black) **-SC**=Custom Ø	**A1**=White (White) **A2**=Acacia (Med Grey) **A3**=Asche (Dark Grey) **A4**=Midnight (Black) **AC**=Custom Ø **W1**=Wood, Maple Ø **W2**=Wood, Walnut Ø **WA**=White Powder Coated Metal **SA**=Silver Powder Coated Metal **BA**=Black Powder Coated Metal **CA**=Custom Powder Coated Metal Ø	**-SWPD1**=WaveLinx Wireless **-LWIPD1**=Lumawatt Pro Wireless **-SVPD1**=Standalone **(blank)**=None
Notes No lens up standard, use satin white diffuser when dust cover desired of top of the fixture is viewable during normal use.	**Notes** Additional lead-time may apply	**Notes** Contact factory for C and R options. W/S/B are standard.	**Notes** Contact factory for SC option.	**Notes** Contact factory for AC option.	**Notes** DD driver must be selected. Please refer to page 5 for additional detail required to specify integrated sensors. Integral option not available with regressed or drop lensing. Battery not compatible with integrated sensor in 4ft DIP fixture.

Product Specifications

Housing Construction
- Available in Flush and Regressed Housing
- Precision cut housing extruded from 6063 aluminum
- Precision cut sheet metal end-caps ensure a robust and clean construction
- Tethered Indirect (top) tray allows for contractor friendly installation
- Nominal 4' and 8' illuminated sections used in individual fixtures in continuous runs.

Acoustic Material
- Composition: 100% Polyester, PET
- Thickness: 12mm
- Fire Testing: ASTM E84 Class A
- Environmental: EPD in accordance with ISO 14025; Red List Free; Green Tag Cert Certified; 100% Recyclable
- General: Moisture resistant; Installation Friendly; Non-allergenic; Low Irritant

Finish
- Electrostatically applied polyester powder coat paint

LED Module
- Modular LED tray assembly comprising reflector and light engine with quick disconnect wire-harness for ease of installation and maintenance over the life of the luminaire

Light Engine
- Offered with our next generation Neo-Ray light engine delivering industry leading efficacy and long-life
- LED's are available in 2700K, 3000K, 3500K, 4000K or 5000K
- CRI options of either ≥80CRI or ≥90CRI (Lumen output will be affected - please refer to the lumen adjustment factor table)

LED Drivers
- LED system coupled with electrical driver
- Traditional electronic drivers are available for 120-277V and 347V applications

Controls and Integrated Sensors
- Equipped standard with a 0-10V continuous dimming driver. Compatible with most standard dimming devices
- Additional control types are available (DALI & Lutron) at an additional cost
- WaveLinx and LumaWatt Pro wireless sensors as well as stand-alone sensors available

Mounting
- Suspended

Lengths
- Available in 4ft incremental length. Max section length of 8ft.
- Additional fixture lengths are available please consult factory. All lengths are nominal, refer to dimensional diagram for details.

Direct Snap-In lensing Options
- Satin Flush - Flush, high diffusion glare-free lens
- Satin Drop - 1" Drop, high diffusion glare-free lens
- Asymmetric - Flush, low-glare Asymmetric lens
- Flush options ship with our patent-pending underlens solution, the proud lens ships with an injection molded end cap to eliminate light leak

Indirect Snap-In lensing Options
- Satin Flush - Flush, high diffusion glare-free lens
- Batwing - Low peak angle distribution to maximize ceiling uniformity and increase row spacing
- No Lens - No lens option provides the lowest cost solution with the highest efficacy

Reflectors
- Precision formed cold-rolled steel reflectors with high reflectivity

Lumen Maintenance
- 90% (L90) of initial light output at 61,000+ hrs
- 70% (L70) of initial light output at 237,000+ hrs
- Derived from TM-21 standard @25°C for worst case operating conditions

Custom Lumen Output
- Custom lumen output expressed option in Lumens per foot (e.g. -725D for 725 Lms/ft down). Refer to additional detail on page 4.

Electrical
- Dimming provided as standard
- Dimming wires capped with wire-nuts for non-dimming applications
- Optional battery backup options provided
- Default battery location is internal to fixture
- Default emergency section is 4ft in length and located at the beginning of the fixture unless designated elsewhere
- Estimated lumen output = battery wattage * min efficacy (see performance table)
- The EPC option will bypass local controls and dimming upon loss of normal power. This option is required when the fixture has both integrated sensors and emergency circuiting

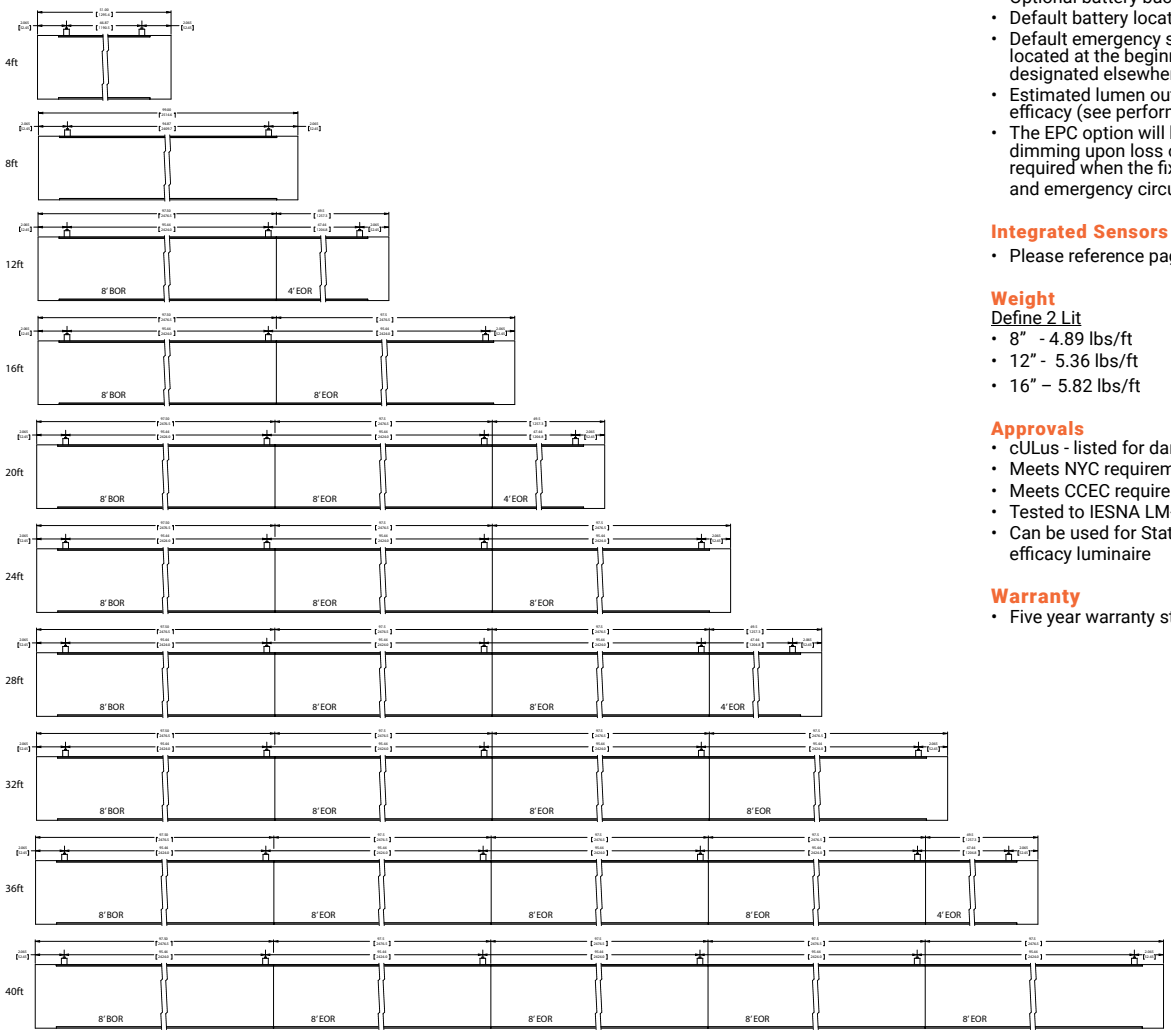
Integrated Sensors
- Please reference page 5 for details

Weight
Define 2 Lit
- 8" - 4.89 lbs/ft
- 12" - 5.36 lbs/ft
- 16" – 5.82 lbs/ft

Approvals
- cULus - listed for damp locations
- Meets NYC requirements
- Meets CCEC requirements
- Tested to IESNA LM-79 and LM-80
- Can be used for State of California Title 24 high efficacy luminaire

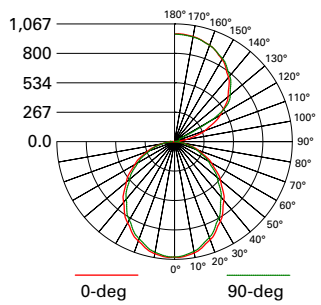
Warranty
- Five year warranty standard.

Length and Mounting Details



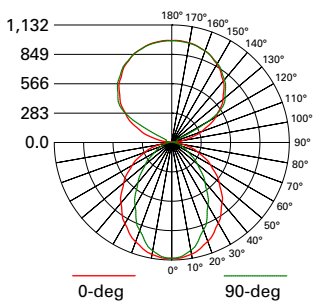
Photometric Data

View IES files

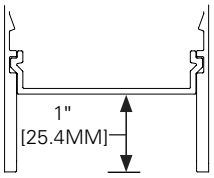


FILE NAME:
S122DIP-S675D675U835-4F0-1E-UDD-F
LUMENS: 5600.6 Lms
LPW: 122 LPW
CCT: 3500K
WATTS: 26.3 W
TEST NUMBER: P331354

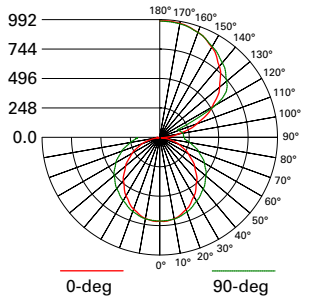
SATIN FLUSH LENS



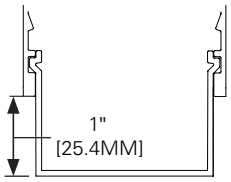
FILE NAME:
S122RDIP-S675D675U835-4F0-1E-UDD-F
LUMENS: 5219.6 Lms
LPW: 113.7 LPW
CCT: 3500K
WATTS: 45.9 W
TEST NUMBER: P331690



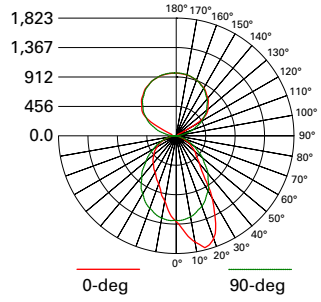
SATIN REGRESSED DIFFUSER



FILE NAME:
S122DIP-S675D675U835-4F0-1E-UDD-D
LUMENS: 5586.8 Lms
LPW: 121.7 LPW
CCT: 3500K
WATTS: 45.9 W
TEST NUMBER: P331351



SATIN DROP LENS



FILE NAME:
S122DIP-S675D675U835-4F0-1E-UDD-A
LUMENS: 5830 Lms
LPW: 127 LPW
CCT: 3500K
WATTS: 45.9 W
TEST NUMBER: P331348

ASYMMETRIC FLUSH LENS

Photometric Overview and Performance Data

Direct Performance Per Linear Foot at 3500K/80CRI

Nominal Output	Standard		High Performance	
lms/ft	W/ft	lm/W	W/ft	lm/W
290	2.9	105	2.9	108
485	4.8	106	4.4	111
675	6.7	104	6.1	111
865	8.8	102	8.1	109
1005	10.6	98	9.7	105

Indirect Performance Per Linear Foot at 3500K/80CRI

Nominal Output	Standard		High Performance	
lms/ft	W/ft	lm/W	W/ft	lm/W
330	2.2	151	2.5	157
530	3.6	151	3.9	163
725	5.0	148	5.3	164
925	6.6	144	7.1	155
1080	7.9	141	8.5	152

LUMEN ADJUSTMENT CALCULATIONS

Example 1 - Adjusted Lumen Output
Nominal Lumen Output selected = 1025 lms/ft (based on standard of 3500K/80CRI)
Lumen Adjustment Factor = 0.801 (2700K/90CRI desired)

Adjusted Lumen Output = Nominal Lumen Output x Lumen Adjustment Factor
Adjusted Lumen Output = 1025 lms/ft x 0.801 = 821 lms/ft

Example 2 - Custom Lumen Output based on Required Lumens Per Foot
Total light output (4ft) requirement of 2800 lms, desired CCT and CRI of 4000K/80CRI

Total required lumens per foot @ 4000K= 2800 lms / 4 ft = 700 lms/ft
Lumen Adjustment Factor = 1.018 (Requirement based on 4000K / 80CRI)

Total required lumens per foot @ 3500K / 80CRI = 700 lms/ft ÷ 1.018 = 688 lms/ft

Estimated efficacy = 121 LPW (find nearest value using table above)
Estimated power consumption = 688 lms/ft ÷ 121 lm/W = 5.69 W/ft

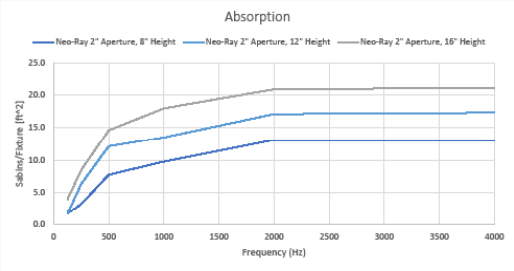
Custom Lumen Output

Total Light Output Range (lms/ft)

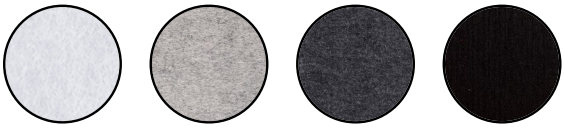
CCT	Lumen Adj Factors		Direct Output Range		Indirect Output Range	
	80CRI	90CRI	80CRI	90CRI	80CRI	90CRI
2700K	N/A	0.792	N/A	230-796	N/A	261-855
3000K	0.943	0.815	273-948	236-819	311-1018	269-880
3500K	1.000	0.861	290-1005	250-865	330-1080	284-930
4000K	1.010	0.892	293-1015	259-896	333-1091	294-963
5000K	1.010	0.892	293-1015	259-896	333-1091	294-963

If your requirement is expressed in power consumption (W/ft) rather than light output, you can use the power to lumen output curves to convert power consumption to light output for specification. Efficacy for custom lumen outputs can be estimated using lumen output curves or with the use of our online custom lumen output tool.

Acoustic Performance



Acoustic Material Colors



White | Medium Grey | Dark Grey | Black

Decorative End Cap Options

White | Medium Grey | Dark Grey | Black | Wood, Maple | Wood, Walnut | White Powder Coated Metal | Silver Powder Coated Metal | Black Powder Coated Metal

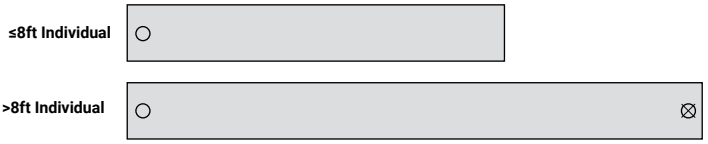
Integrated Sensor Details and Placement

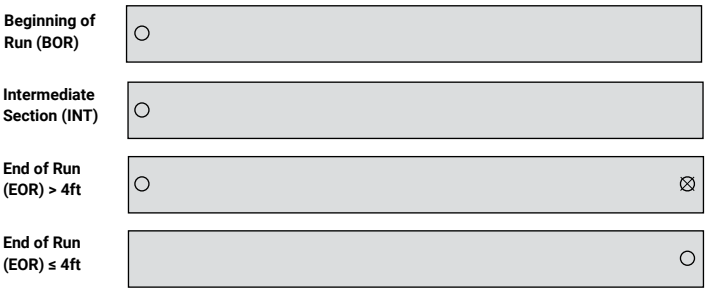
Sensor Type	Wireless	Sensor Integration	Sensor Mounting	Ordering Code
WaveLinx	Yes	Integral to Fixture	Mounted in solid cover	SWPD1
LumaWatt Pro (enlighted)	Yes	Integral to Fixture	Mounted in illuminated lens	LWIPD1
Stand-Alone SVPD1	No	Integral to Fixture	Mounted in solid cover	SVPD1

Optional standalone and wireless connected integrated sensors require use of the DD (0-10V) driver. WaveLinx and LumaWatt Pro sensors require additional system hardware (not provided) for full functionality.

Standard sensor layout is shown below. Please refer to sensor coverage pattern diagrams to ensure proper coverage for the application. Standard configurations are available in both individual fixtures and in continuous runs. Default spacing is based on the maximum fixture length of 8ft.

For additional information integrated sensors and connected lighting, please visit Cooper Lighting Solutions's Connected Lighting Website.





○ Standard Sensor with Luminaire Control
⊠ Auxiliary Sensor used for Sensor Coverage (wireless systems only)