

MD8LED

8" HIGH LUMEN
DOWNLIGHT AND WALL WASH
120 -277V, 347V 0-10V DIMMING



APPLICATIONS:

Architektur MD8LED Series is a 8" specification grade high output LED downlight capable of delivering over 16,500 lumens and designed for ceiling heights from 20 to 60 feet. Combining energy savings, long life, low maintenance cost & controllability, it is an excellent alternative to metal halide (up to 250 watts) and quartz (up to 500 watts) fixtures. ENERGY STAR® qualified. Rated for a minimum of 50,000 hours life with 70% Lumen maintenance up to 40°C (104°F) when free airflow is available around the fixture. Rated for a minimum of 60,000 hours life with 85% lumen maintenance up to 30°C (86°F) when free airflow is available around the fixture and no lens is present.

HOUSING:

18 gauge corrosion protected steel platform designed for accessibility. Pre-wired J-box with snap-on covers. Separate power supply module serviceable and removable from above or below the ceiling. Power supply module is connected to the LED light engine using a locking plug-in connector. Approved for 8 (4 in/4 out) No. 12 AWG conductors rated for 90°C through wiring. Variable light engine mounts allow reflectors to be interchanged in the field.

REFLECTOR:

High purity spun aluminum self-flanged reflector with iridescence suppressed Alzak anodized finish. Available in several finishes in a variety of anodized colors as well as painted trim options. Offered in 35°, 45°, and 55° optical distributions as well as lens options for wet location applications. A wall wash (WW) option is also available. Easy to install yoke mounting system with safety tether included.

LED LIGHT ENGINE:

The MD8LED uses up to 480 individual Nichia LEDs specifically mixed to provide a minimum of 80 CRI with 3 SDCM color consistency. The LED light engine is available in multiple lumen packages and color temperatures to accommodate any design requirement. The use of individual LEDs to achieve these lumen packages enables optimal thermal management while creating a visually pleasing diffuse appearance in the ceiling. The LED light engine is coupled to a passive heat sink utilizing innovative heat pipe technology, and is protected with a self resetting thermal protector.

LED DRIVER:

Each string of 120 LEDs is powered by a single 40 watt, constant current LED driver (up for 4 drivers per fixture). The driver is UL8750 and Class 2 compliant. Lutron Series A drivers also available

DIMMING:

Standard 0-10v dimming provides flicker-free dimming to 10%. For sizing of the circuit control, the dimming circuit may require up to 1.2mA of sink current. See list of compatible dimmers below in the Dimming Compatibility Table.

Lutron EcoSystem, or 0-10V dimming available to 1%, and DMX with RDM (remote device management) dimming to less than 0.1%.

INSTALLATION:

Universal adjustable mounting brackets accommodate 1.5" or 3/4" lathing channel or 1/2" EMT (by others) or Prescolite B24 or B6 bar hangers.

CERTIFICATIONS:

CSA certified to US and Canadian safety standards. Suitable for damp locations, or wet locations with a lens. Non-IC rated and approved for 90°C, 4IN/4OUT, through branch wiring. ENERGY STAR® qualified with open clear Alzak reflector. Product is marked spacing and must be installed with the following minimum spacings:

Center to Center of adjacent luminaires : 36"

Minimum Overhead Clearance: 19"
(To bottom of metal pan)

Center of Luminaire to Side of Building Member : 18"

WARRANTY:

5 Year Warranty.

DATE: _____ TYPE: _____

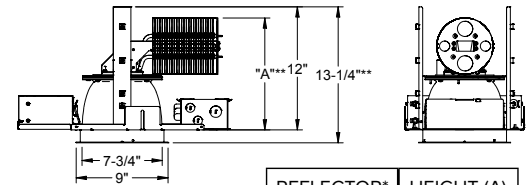
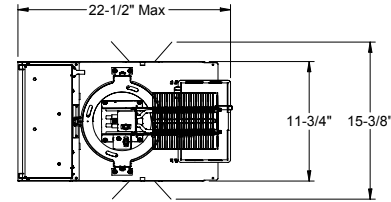
FIRM NAME: _____

PROJECT: _____

Architektur



Ceiling Cutout: 8 1/4"
Maximum Ceiling Thickness 1 1/4"
Consult factory for ceiling thickness to 2"
For conversion to millimeters,
multiply inches by 25.4
Not to Scale



REFLECTOR*	HEIGHT (A)
35°	15"
45°	11"
WW	10"

* WITH LENS ASSEMBLY
** Dimension "A" may or may not be limiting vertical dimension depending upon chosen reflector

CATALOG NUMBER:

EXAMPLE: MD8LED12L35K8-8MD12LWFL45

Order housing, reflector, and accessories separately

HOUSING	OUTPUT	LED COLOR TEMP	CRI	VOLTAGE	OPTIONS	TRIM APERTURE	OUTPUT	BEAM ANGLE	REFLECTOR FINISH	REFLECTOR COLORS	REFLECTOR OPTIONS	ACCESSORIES
<input type="checkbox"/> MD8LED 8" High output LED housing	<input type="checkbox"/> 4L² 4000 Delivered Lumens <input type="checkbox"/> 8L² 8000 Delivered Lumens <input type="checkbox"/> 12L^{2,6} 12000 Delivered Lumens <input type="checkbox"/> 16L^{2,6} 16000 Delivered Lumens	<input type="checkbox"/> 27K 2700 Kelvin <input type="checkbox"/> 30K 3000 Kelvin <input type="checkbox"/> 35K 3500 Kelvin <input type="checkbox"/> 40K 4000 Kelvin <input type="checkbox"/> 50K⁴ 5000 Kelvin	<input type="checkbox"/> 8 80+ CRI <input type="checkbox"/> 9⁴ 90+ CRI	<input type="checkbox"/> Blank 120V-277V <input type="checkbox"/> 347⁵ 347 Volt	<input type="checkbox"/> Blank Standard 0-10V dimming <input type="checkbox"/> EDM Hi-Lume 1% EcoSystem LED Driver <input type="checkbox"/> DM1 0-10V 1% Dimming <input type="checkbox"/> DMX DMX with RDM dimming to <0.1% <input type="checkbox"/> LF⁵ Variable Intensity Lighting Lumen Factor	<input type="checkbox"/> 8MD 8" Alzak Reflector	<input type="checkbox"/> 4L² Suitable for 4000 Lumen Housings <input type="checkbox"/> 8L² Suitable for 8000 Lumen Housings <input type="checkbox"/> 12L^{2,6} Suitable for 12000 Lumen Housings <input type="checkbox"/> 16L^{2,6} Suitable for 16000 Lumen Housings	<input type="checkbox"/> FL35 Nominal 35 Degree Cutoff <input type="checkbox"/> WFL45 Nominal 45 Degree Cutoff <input type="checkbox"/> XFL55 Nominal 55 Degree Cutoff <input type="checkbox"/> WW^{7,8} Wall Wash	<input type="checkbox"/> Blank Specular <input type="checkbox"/> SS Semi-Specular <input type="checkbox"/> VS Kurt Versen Softglow ² <input type="checkbox"/> VSS Kurt Versen SoftSheen TM	<input type="checkbox"/> Blank Clear Alzak <input type="checkbox"/> CG Champagne Gold Alzak <input type="checkbox"/> BL Black Alzak <input type="checkbox"/> LW Light Wheat Alzak <input type="checkbox"/> PW Pewter Alzak <input type="checkbox"/> BC¹ Painted Black Cone <input type="checkbox"/> WC¹ Painted White Cone	<input type="checkbox"/> Blank⁸ No Lens <input type="checkbox"/> CL⁸ Clear Lens over LEDs (wet location) <input type="checkbox"/> SL⁸ Solite Softening Lens over LEDs (wet location) <input type="checkbox"/> WT Painted White Flange <input type="checkbox"/> BT Painted Black Flange	<input type="checkbox"/> B24 Set of two(2) 24" bar hangers for T-bar ceilings <input type="checkbox"/> B6 Set of two (2) bar hangers for ceiling joist up to 24" centers

¹Must specify either WT or BT for painted cone
²Housing and reflector output must be consistent
³Available in standard 0-10V dimming only
⁴50K not available in 90 CRI
⁵Lumen factor available in 5% increments, from 75% (075) to 110% (110) on the 4L, 8L, 12L or 16L housings. See page 2 for more information
⁶Not available in wall wash (WW)
⁷Available with 4L and 8L only
⁸Satin lens is standard for wall wash (WW)

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DOWNLIGHT AND WALL WASH
120 –277V, 347V 0-10V DIMMING

DRIVER DATA	MD8LED4L	MD8LED8L	MD8LED12L	MD8LED16L
Input Voltage	120-277V	120-277V	120-277V	120-277V
Input Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Input Current	0.33 (120v)	0.68 (120v)	0.98 (120v)	1.3(120v)
	0.14 (277v)	0.28 (277v)	0.42 (277v)	0.56 (277v)
Input Power	39W	78W	117W	156W
Constant Current Output	950mA	950mA	950mA	950mA
Power Factor	≥0.90	≥0.90	≥0.90	≥0.90
THD	<25%	<20%	<20%	<20%
EMI Filtering	FCC 47CFR	FCC 47CFR	FCC 47CFR	FCC 47CFR
	Part 15, Class A	Part 15, Class A	Part 15, Class A	Part 15, Class A
Operating Temperature	-20°C to 40°C*	-20°C to 40°C*	-20°C to 40°C*	-20°C to 40°C*
Dimming	0-10V	0-10V	0-10V	0-10V

Over-voltage, over-current, short-circuit protected

**347V: Utilizes step-down transformer with 7% increase in power consumption for all 347V models

*See application notes on page 1 for details

Lumen Multiplier Table	5000 Kelvin	1.14
Photometrics for the MD8LED are published below at a nominal 3500 Kelvin temperature. This table may be used to approximate the lumen values at different Kelvin temperatures. Power consumption would stay the same.	4000 Kelvin	1.03
	3500 Kelvin	1.00
	3000 Kelvin	1.00
	2700 Kelvin	0.91
	Solite Lens	0.87
	90 CRI.....	0.80



Variable Intensity
Technology

VARIABLE INTENSITY LIGHTING

LUMEN FACTOR (LF)

The Megalum offers the ability to deliver precisely the amount of light you need for any downlighting application - from less than 2000 lumens to nearly 17500 lumens! The standard Megalum 4L, 8L, 12L and 16L fixtures can all be tuned from 75% to 110% of their published lumen outputs. Simply select your light engine, and in the housing options select a lumen factor (LF___).

In most lighting calculation software, the "LF" can be used in the ballast factor input to adjust the calculated light levels.

Lumen Factor	075	080	085	090	095	100	105	110
Watt Factor	0.72	0.78	0.83	0.89	0.94	1	1.06	1.13

It is also important to note that the input power also changes in the same direction, but not in proportion to the lumens.

The 'watt factor' corresponding to the appropriate 'lumen factor' can be used to calculate the input power.

Example:

Desired: 13000 Lumens using a WFL45 open reflector

MC8LED 12L WFL45 Open fixture provides 12095 delivered lumens and requires 117.5 input watts (chart, page 3)

Choose: LF110. 12095 lumens x 1.1 = **13304 Delivered Lumens**

Calculated Watts: The corresponding Watt Factor to LF110 = 1.13

117.5 watts x 1.13 = **132.8 input watts**

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Delivered Lumens

The table below shows the delivered lumens for the various lumen outputs and beam distributions. Use this chart in connection with the lumen factor (LF) capability to deliver any output required.

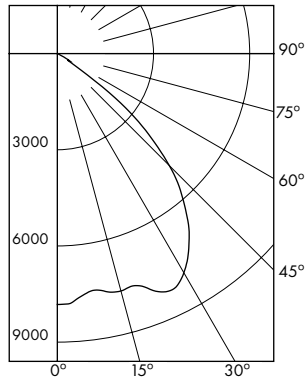
Output	Beam	Lens	Delivered Lumens	Input Watts	Lumens Per Watt	Test Number	Full Catalog String
16L	XFL55	Open	16132	156.5	103.1	IES	MD8LED16L35K-8MD16LXFL55
16L	WFL45	Open	15920	156.1	102.0	IES	MD8LED16L35K-8MD16LWFL45
16L	FL35	Open	14833	156.4	94.8	IES	MD8LED16L35K-8MD16LFL35
16L	XFL55	SL	14150	156.3	90.5	IES	MD8LED16L35K-8MD16LXFL55 SL
16L	WFL45	SL	13925	156.3	89.1	IES	MD8LED16L35K-8MD16LWFL45 SL
16L	FL35	SL	13077	156.2	83.7	IES	MD8LED16L35K-8MD16LFL35 SL
12L	XFL55	Open	12221	117.5	104	IES	MD8LED12L35K-8MD12LXFL55
12L	WFL45	Open	12095	117.5	102.9	IES	MD8LED12L35K-8MD12LWFL45
12L	FL35	Open	11253	117.5	95.8	IES	MD8LED12L35K-8MD12LFL35
12L	XFL55	SL	10767	117.5	91.6	IES	MD8LED12L35K-8MD12LXFL55 SL
12L	WFL45	SL	10580	117.5	90.0	IES	MD8LED12L35K-8MD12LWFL45 SL
12L	FL35	SL	9939	117.5	84.7	IES	MD8LED12L35K-8MD12LFL35 SL
8L	XFL55	Open	8533	78.1	109.3	IES	MD8LED8L35K-8MD8LXFL55
8L	WFL45	Open	8094	78.1	103.6	IES	MD8LED8L35K-8MD8LWFL45
8L	FL35	Open	7614	78.3	97.2	IES	MD8LED8L35K-8MD8LFL35
8L	XFL55	SL	7129	78.2	91.3	IES	MD8LED8L35K-8MD8LXFL55 SL
8L	WFL45	SL	7269	78.2	93.1	IES	MD8LED8L35K-8MD8LWFL45 SL
8L	FL35	SL	6648	78.1	85	IES	MD8LED8L35K-8MD8LFL35 SL
4L	XFL55	Open	4337	38.8	111.8	IES	MD8LED4L35K-8MD4LXFL55
4L	WFL45	Open	4097	38.8	105.6	IES	MD8LED4L35K-8MD4LWFL45
4L	FL35	Open	3881	38.9	99.8	IES	MD8LED4L35K-8MD4LFL35
4L	XFL55	SL	3794	38.8	96.6	IES	MD8LED4L35K-8MD4LXFL55 SL
4L	WFL45	SL	3701	38.8	95.4	IES	MD8LED4L35K-8MD4LWFL45 SL
4L	FL35	SL	3411	38.8	87.9	IES	MD8LED4L35K-8MD4LFL35 SL

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MD8LED16L35K8-8MD16LXFL55

LED Light Engine: 3500K, 80+ CRI
System Wattage: 156.5W
Fixture Delivered Lumens: 16132
Fixture Efficacy: 103.1
Spacing Criteria: 1.36



CANDELA DISTRIBUTION

DEG	CANDELA
0	7826
5	7645
15	7667
25	8181
35	7162
45	4939
55	910
65	53
75	18
85	4
90	0

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0-40	11062	68.6
0-60	15985	99.1
0-90	16132	100.0
0-180	16132	100.0

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	Average - 0°
45°	215386
55°	48923
65°	3867
75°	2145
85°	1415

Test No. 17.00143

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

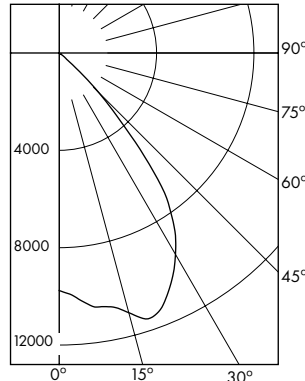
COEFFICIENTS OF UTILIZATION Zonal Cavity Method

Room Cavity Ratio	% Effective Ceiling Cavity Reflectance																
	80%		70%		50%		30%		10%								
	70	50	30	10	70	50	30	10	50	30	10						
% 20% Effective Floor Cavity Reflectance																	
% Wall Reflectance																	
1	112	109	106	103	110	107	104	102	103	100	98	99	97	95	95	94	93
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	85	83
3	98	90	84	79	96	88	83	78	86	81	77	83	79	75	81	77	74
4	91	82	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54
7	74	62	55	49	72	61	54	49	60	54	49	59	53	49	57	52	48
8	69	57	50	45	67	57	49	45	55	49	44	54	48	44	53	48	44
9	65	53	45	41	63	52	45	40	51	45	40	50	44	40	49	44	40
10	61	49	42	37	59	48	42	37	47	41	37	46	41	37	46	40	37

MD8LED16L35K8 8MD16LXFL55 Test No. 17.00143

MD8LED16L35K8-8MD16LWFL45

LED Light Engine: 3500K, 80+ CRI
System Wattage: 156.1W
Fixture Delivered Lumens: 15920
Fixture Efficacy: 102.0
Spacing Criteria: 1.18



CANDELA DISTRIBUTION

DEG	CANDELA
0	9759
5	10205
15	11049
25	10699
35	7988
45	2298
55	132
65	41
75	16
85	3
90	0

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0-40	13876	87.2
0-60	15857	99.6
0-90	15920	100.0
0-180	15920	100.0

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	Average - 0°
45°	86454
55°	5782
65°	2230
75°	1196
85°	377

Test No. 17.00159

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

COEFFICIENTS OF UTILIZATION Zonal Cavity Method

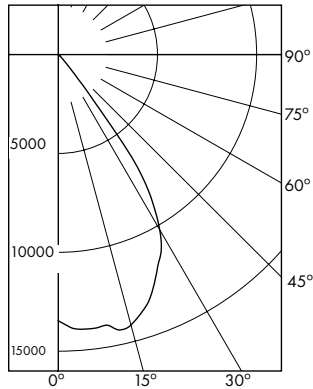
Room Cavity Ratio	% Effective Ceiling Cavity Reflectance																
	80%		70%		50%		30%		10%								
	70	50	30	10	70	50	30	10	50	30	10						
% 20% Effective Floor Cavity Reflectance																	
% Wall Reflectance																	
1	113	110	107	105	111	108	105	103	104	102	100	100	99	97	97	95	94
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86
3	101	94	88	84	99	92	87	83	90	85	82	87	83	80	85	82	79
4	95	86	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73
5	89	80	74	69	88	79	73	69	77	72	68	75	71	67	74	70	67
6	84	74	68	63	82	73	67	63	72	66	62	70	65	62	69	65	61
7	79	69	62	58	78	68	62	57	67	61	57	66	61	57	64	60	56
8	75	64	58	53	73	64	57	53	62	57	53	61	56	52	60	56	52
9	70	6	53	49	69	59	53	49	58	53	49	57	52	48	56	52	48
10	67	56	50	45	66	56	49	45	55	49	45	54	49	45	53	48	45

MD8LED16L35K8 8MD16LWFL45 Test No. 17.00159

MD8LED

8" HIGH LUMEN
DOWNLIGHT AND WALL WASH
120 -277V, 347V 0-10V DIMMING

MD8LED16L35K8-8MD16LFL35
LED Light Engine: 3500K, 80+ CRI
System Wattage: 156.4W
Fixture Delivered Lumens: 14833
Fixture Efficacy: 94.8
Spacing Criteria: 1.01



CANDELA DISTRIBUTION

DEG	CANDELA
0	13456
5	13940
15	14159
25	11850
35	7003
45	283
55	65
65	21
75	8
85	2
90	0

Test No. 17.00164

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

ZONAL LUMEN SUMMARY

ZONE	LUMENS
0-40	14436
0-60	14800
0-90	14833
0-180	14833

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	Average - 0°
45°	12341
55°	3494
65°	1532
75°	953
85°	708

COEFFICIENTS OF UTILIZATION Zonal Cavity Method

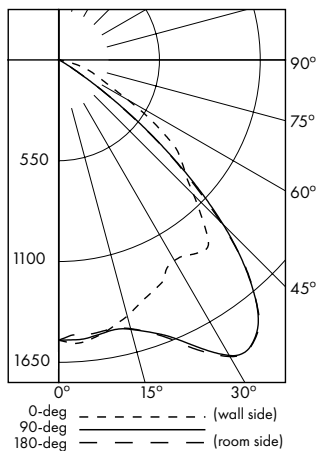
Room Cavity Ratio	% Effective Ceiling Cavity Reflectance																
	80%		70%		50%		30%		10%								
	70	50	30	10	70	50	30	10	50	30	10						
1	114	111	108	106	111	109	106	104	105	103	101	101	100	98	96	95	
2	108	103	99	96	106	102	98	95	96	95	93	95	93	91	93	91	89
3	103	96	91	88	101	95	90	87	92	89	85	90	87	84	88	85	83
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77
5	93	84	79	74	91	83	78	74	82	77	73	80	76	73	78	75	72
6	88	79	73	69	86	78	73	69	77	72	68	75	71	68	74	70	67
7	83	74	68	64	82	74	68	64	72	67	64	71	67	63	70	66	63
8	79	70	67	60	78	69	64	60	68	63	59	67	63	59	66	62	59
9	75	66	60	56	74	65	60	56	64	59	56	64	59	55	63	58	55
10	72	62	56	52	71	62	56	52	61	56	52	60	55	52	59	55	52

MD8LED16L35K8 8MD16LFL35

Test No. 17.00164

MD8LED6L35K8 8MD6LWW

LED Light Engine: 3500K, 80 CRI
System Wattage: 65.1W
Fixture Delivered Lumens: 3792
Fixture Efficacy: 58.2



CANDELA DISTRIBUTION

DEG	0	90	180
0	1529	1529	1529
5	1545	1529	1510
15	1447	1522	1518
25	1338	1714	1736
35	1292	1861	1864
45	1043	1269	1249
55	702	284	283
65	267	17	18
75	107	7	6
85	6	2	2
90	6	4	7

Test No. 16.02805

Tested at 25°C Ambient in accordance to IESNA LM-79-2008



3' DISTANCE FIXTURE MOUNTED OUT FROM WALLS
FOOTCANDLE DISTRIBUTION ON WALL SURFACE (Direct Only)

DISTANCE FROM CEILING IN FEET	1'				2'				3'				4'									
	15	12	5	1	0	18	16	18	16	9	16	41	32	13	4	1	49	46	49	43	26	43
2	41	35	24	11	3	64	64	64	48	50	48	31	29	24	16	8	64	65	64	48	50	48
3	19	19	18	15	10	55	54	55	40	42	40	13	13	13	12	10	45	44	45	34	33	34
4	9	9	9	8	8	36	37	36	28	27	28	7	7	6	6	6	30	30	30	22	23	22
5	5	5	5	5	4	24	24	24	18	19	18											

MD8LED6L35K8 8MD6LWW

Test No. 16.02805

LUMINANCE DATA IN CANDELA/SQ. METER

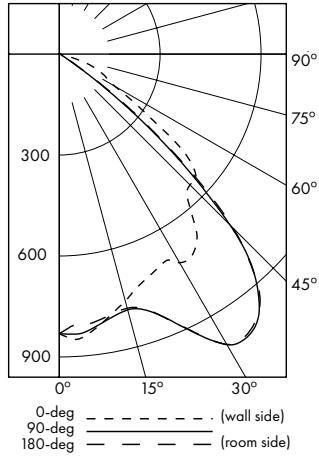
Angle in Vertical	0 DEG	90 DEG	180 DEG
45°	45468	55320	54448
55°	37727	15263	15209
65°	19475	1240	1313
75°	12744	834	715
85°	2122	707	707

MD8LED

8" HIGH LUMEN
DOWNLIGHT AND WALL WASH
120 –277V, 347V 0-10V DIMMING

MD8LED3L35K8 8MD3LWW

LED Light Engine: 3500K, 80 CRI
System Wattage: 32.6W
Fixture Delivered Lumens: 2009
Fixture Efficacy: 61.6



CANDELA DISTRIBUTION

DEG	0	90	180
0	831	831	831
5	843	831	810
15	760	787	782
25	699	902	900
35	705	1003	996
45	550	718	732
55	334	110	119
65	147	8	9
75	36	3	3
85	3	1	1
90	4	1	3

Test No. 16.02806

Tested at 25°C Ambient in accordance to IESNA LM-79-2008



**3' DISTANCE FIXTURE MOUNTED OUT FROM WALLS
FOOTCANDLE DISTRIBUTION ON WALL SURFACE (Direct Only)**

DISTANCE FROM CEILING IN FEET	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
1	8	6	2	1	0					9	7	9						8	4	8							
2	19	14	6	2	1					23	21	23						20	12	20							
3	22	20	14	5	1					32	36	32						24	28	24							
4	16	15	12	8	4					34	31	34						24	25	24							
5	11	11	10	8	5					29	29	29						22	22	22							
6	7	7	7	6	5					24	24	24						18	18	18							
7	5	5	5	5	4					20	19	20						15	15	15							
8	3	3	3	3	3					16	16	16						12	12	12							
9	3	3	2	2	2					13	13	13						10	10	10							

MD8LED3L35K8 8MD3LWW

Test No. 16.02806

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	0 DEG	90 DEG	180 DEG
45°	23976	31300	31910
55°	17950	5912	6395
65°	10722	584	656
75°	4288	357	357
85°	1061	354	354

Dimming Compatibility

For more details and recommended dimmer list, see Dimming Compatibility Information at www.currentlighting.com/prescolite.

DMX

See instruction sheet on the Prescolite website for connection & installation information.

Variable Intensity Technology

Offering the ability to deliver precisely the amount of light you need for any downlighting application- from less than 2000 lumens to more than 16,500 lumens. The standard Megalum 4L, 8L, 12L, and 16L fixtures can all be tuned from 75% to 110% of their published lumen outputs.

