

ARCHITECTURAL SENSORS

ALERA EXPRESS

FEATURES

- 2½" deep housing for a sleek modern appearance
- Indirect Luminaire
- Unique lamp crossing technique on one and three lamp models maintains 48" modularity
- Heavy 20-gauge steel construction provides excellent housing rigidity
- Controls compatible
- Available with optional installed open or closed loop daylight sensors (DSPL, DSL) when daylight dimming systems are desired
- Unique die cast aluminum, tongue and groove couplers provide zero tolerance alignment resulting in consistently straight rows
- Patented die cast aluminum end caps for a soft finished appearance (Patent# 6,796,676B2)
- Flat end caps standard
- Available with a slotted or perforated housing
- Modular mounting points for convenient hanging locations

SHAPE AND DIMENSIONS

PROJECT INFORMATION

Project Name	Type
Catalog No.	Date

CONSTRUCTION

- Housing provides indirect distribution. Glow from perforation allows under 5% direct light.
- Up to four T8 lamps and up to three T5 or T5HO lamps.
- The exact shape of the housing is maintained by the use of an inner die cast plate at each fixture end.
- The housing is designed to wrap around the end plates and secures on top with concealed screws to ensure housing tolerances are consistent. These die cast aluminum end caps and aligners provide zero tolerance alignment between fixtures, resulting in consistently straight rows with no snaking.
- Reflectors: standard with a painted white steel reflector with specular inserts on the side.
- High efficiency reflector (HRF) high reflectance specular material allows for wide distribution with maximum efficiency.
- WR: An economical painted white reflector

FINISH

The housing and all painted parts are treated with a multi-stage phosphate bonding process before being finished. Parts are then finished with a white RAL powder coat finish for maximum consistent coverage and longevity.

MOUNTING

- Aircraft cable suspension mechanism.
- Fixed cable has a total vertical adjustment of 1¼".

End of cable barrel screws into a standard ¼-20 bolt brought down from the ceiling. A feed canopy is provided for each feed location. All fixtures are suspended in modular increments and must be supported at each fixture-housing end.

LABELS AND ELECTRICAL

- All luminaires are built to UL1598 Standards and bear appropriate UL and cUL or CSA labels. Damp location labeling is standard.
- Quick-connect plugs standard.

CONTROLS COMPATIBILITY

Controls compatible. When used with Occupancy Sensors, most lamp vendors recommend Program Start ballast (EP) to extend lamp life. For daylight sensors installed, see information below.

ARCHITECTURAL SENSORS INSTALLED

Daylight sensors are used to measure available sunlight and reduce electric light for energy savings. Alera sensors are installed to be both accessible and visible below the housing.

DSPL: Philips LuxSense, Mark 7 0-10V dimming ballast. Closed loop sensor measures reflected light in a cone below the sensor. Pre-commissioned by Philips to 45fc standard; modest manual adjustability via sensor ring.

DSL: Lutron EcoSystem, digital dimming ballast. Open loop sensor must be pointed directly at the source of natural light. System requires proprietary commissioning by others.

Additional technical data: see TID sheets, Alera website and sensor manufacturer websites.

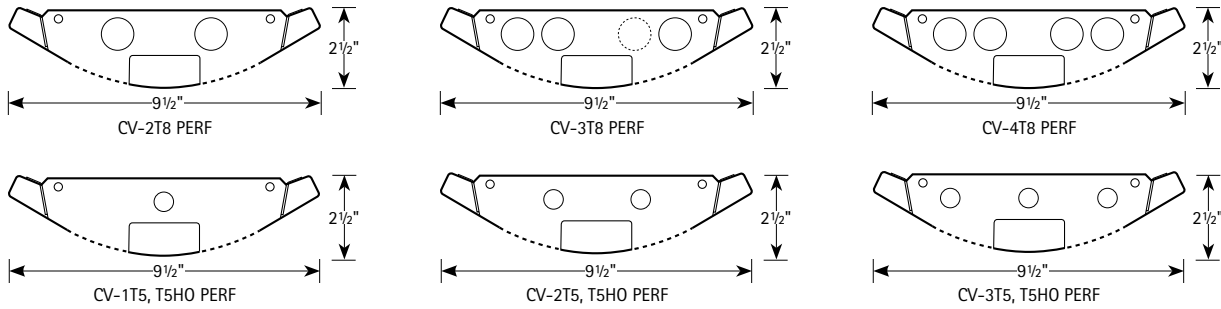
Name:	CV-1T8-S-E-WR
Test #:	12991
Efficiency:	97.2%
LER:	86

ORDERING INFORMATION

EXAMPLE: CV-8-2T8-PERF-CM48-EU-MW

MODEL	HOUSING TYPE	MOUNTING METHOD	ADJUSTABLE CABLE LENGTH	VOLTAGE	FINISH
CV CÛrv	PERF Perforated HSLT Horizontal Slot Strip VLST Vertical Slot Strip	FCM18 Fixed Aircraft Cable Mount (Non-adjustable, Std.) 18" CM Adjustable Aircraft Cable Mount	48 48" 96 96" Other lengths available on request.	U 120V-277V 120 120V 277 277V 347 347V	MW Matte White (Std.) ZT ZET Metallic Silver See Color Selection Guide for other colors.
ROW LENGTH	LAMP TYPE AND PROFILE	BALLAST			
4 4' Single 8 8' Single 12 12' Single – Indicate row length over 12' in 4' increments	1T5 One T5 Lamp 2T5 Two T5 Lamps 3T5 Three T5 Lamps 1T5HO One T5HO Lamp 2T5HO Two T5HO Lamps 3T5HO Three T5HO Lamps 2T8 Two T8 Lamps 3T8 Three T8 Lamps 4T8 Four T8 Lamps	E Electronic, Instant Start (Std. for T8) EP Electronic, Programmed Start (Std. for T5 & T5HO, optional for T8) ELW Electronic T8, Low Wattage, Instant Start EPLW Electronic T8, Low Wattage, Programmed Start ED Electronic, Dimming (Must specify) ESD Electronic, Step Dimming EDUMK7 Universal Voltage, Electronic Dimming Philips Advance Mark 7 (0-10V) EDULUTES Universal Voltage, Lutron EcoSystem Digital Dimming Ballast ^{2,4}			
<p>Note: Rows over 12' will be configured by Alera. Example: 16' will be (2) 8'. Alternate configurations: contact factory.</p> <p>¹ Specify voltage. For additional, specify quantity before nomenclature (Example: 2EL120).</p> <p>² Not available with all configurations; some limitations apply. Contact factory for details.</p> <p>³ One extra feed drop per EMC or NLC. (For through wiring, contact factory.)</p> <p>⁴ Lutron EcoSystem® series ballast. Contact factory for other Lutron ballasts.</p> <p>⁵ Ships separately.</p>					
OPTIONS					
WR White Reflector HRF High Efficiency Reflector DC Dust Cover (N/A T5HO) ⁵ SCE Sculpted End Cap (5½"*) ⁵ BN Bull Nose End Cap (5½"*) ⁵ LR Left/Right Switching (2-Lamp only) IBOB Inboard/Outboard Switching (3-Lamp only) F0841 With T8 4100L Lamp Installed F5841 With T5(HO) 4100K Lamp Installed F0835 With T8 3500K Lamp Installed F5835 With T5(HO) 3500K Lamp Installed EL One Emergency Battery Pack ^{1,2} EMC One Emergency Circuit ^{2,3} NLC Night Light Circuit ^{2,3} GLR Fast Blow Fuse GMF Slow Blow Fuse TBAR T-Bar Mounting DSPL Philips LuxSense Daylight Sensor (Must Specify Philips Advance 0-10V Dimming Ballast) ² DSL Lutron Daylight Sensor (Must Specify Lutron EcoSystem (EC5 Series) Dimming Ballast) ^{2,4}					

CROSS SECTION



PHOTOMETRIC DATA

LUMINAIRE DATA Test 13197

Luminaire	CV-2T8-PERF-CM-E CÛrv Architectural Curve 9.5" x 48" 2-Lamp with LS Side Reflector
Ballast	REL2P32SC
Ballast Factor	0.87
Lamp	F32T8
Lumens per Lamp	2900
Watts	59
Mounting	Pendant
Shielding Angle	0° = 90 90° = 90
Spacing Criterion	0° = 1.16 90° = 1.31
Luminous Opening in Feet	Length: 3.54 Width: 0.33 Height: 0.00

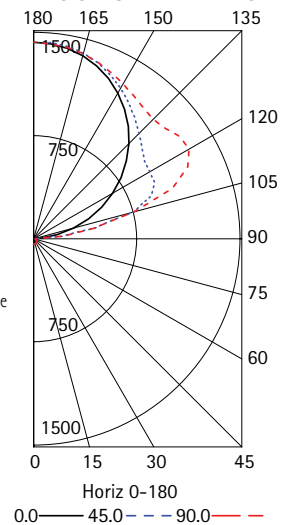
AVG. LUMINANCE (Candela/Sq. M.)

Angle	0.0	22.5	45.0	67.5	90.0
0	369	369	369	369	369
30	330	351	362	372	372
40	301	325	349	397	409
45	274	300	352	430	443
50	244	287	387	444	459
55	225	273	386	450	482
60	203	258	387	461	498
65	174	283	392	480	523
70	189	296	431	539	566
75	178	320	498	605	676
80	159	425	584	743	796
85	211	634	952	1269	1374

COEFFICIENTS OF UTILIZATION (%)

RCR	RC	80					70					50					0
		RW	70	50	30	10	70	50	30	10	50	30	10	0			
1	83	80	76	73	71	68	66	63	47	46	44	2					
2	76	69	64	59	65	60	55	52	41	39	36	1					
3	69	61	54	49	59	52	47	43	36	33	30	1					
4	63	54	47	41	54	46	40	36	32	29	26	1					
5	58	47	40	35	49	41	35	31	28	25	22	1					
6	53	42	35	30	45	36	30	26	25	22	19	1					
7	48	38	31	26	41	33	27	23	23	19	16	1					
8	45	34	27	22	38	29	24	20	21	17	14	1					
9	41	31	24	20	35	26	21	17	19	15	12	1					
10	38	28	21	17	33	24	19	15	17	13	11	0					

INDOOR CANDELA PLOT



Test Date 8/22/02

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	31	0.5	0.6
0-40	51	0.9	0.9
0-60	93	1.6	1.7
0-90	133	2.3	2.4
90-120	1775	30.6	32.0
90-130	2680	46.2	48.3
90-150	4286	73.9	77.2
90-180	5421	93.5	97.6
0-180	5555	95.8	100.0

ENERGY DATA

Total Luminaire Efficiency	95.8%
Luminaire Efficacy Rating (LER)	82
ANSI/IESNA RP-1-2004 Compliance	Yes-VDT Intensive Use
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$2.93 based on 3000 hrs. and \$0.08 per KWH

PHOTOMETRIC DATA

LUMINAIRE DATA Test 12982

Luminaire	CV-2T8-PERF-E-HRF CÛrv Architectural Curve 9.5" x 48" 2-Lamp with Perforated Highly Specular Reflector
Ballast	B2321120RH-A
Ballast Factor	0.88
Lamp	F32T8
Lumens per Lamp	2900
Watts	59
Mounting	Pendant
Shielding Angle	0° = 90 90° = 90
Spacing Criterion	0° = 1.09 90° = 1.09
Luminous Opening in Feet	Length: 3.54 Width: 0.33 Height: 0.00

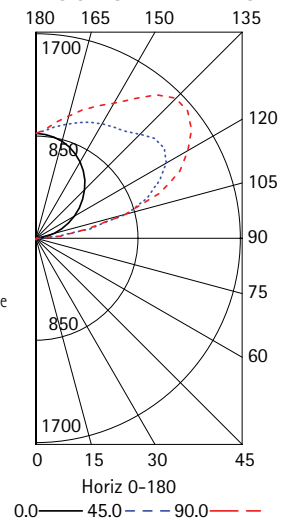
AVG. LUMINANCE (Candela/Sq. M.)

Angle	0.0	22.5	45.0	67.5	90.0
0	101	101	101	101	101
30	85	74	74	85	85
40	84	60	72	84	84
45	78	52	78	91	91
50	72	57	72	86	86
55	64	48	64	96	96
60	55	37	74	92	92
65	44	44	65	87	87
70	0	27	54	81	81
75	0	0	36	71	71
80	0	0	0	53	53
85	0	0	0	0	106

COEFFICIENTS OF UTILIZATION (%)

RCR	RC	80					70					50					0
		RW	70	50	30	10	70	50	30	10	50	30	10	0			
1	80	77	73	70	68	66	63	60	45	43	42	0					
2	73	67	62	57	62	57	53	50	39	37	35	0					
3	66	59	52	47	57	50	45	41	35	31	29	0					
4	61	52	45	40	52	44	39	35	31	27	24	0					
5	55	46	39	34	47	39	34	29	27	24	21	0					
6	51	41	34	29	43	35	29	25	24	21	18	0					
7	47	36	30	25	40	31	26	22	22	18	15	0					
8	43	33	26	21	37	28	23	19	19	16	13	0					
9	40	29	23	19	34	25	20	16	18	14	12	0					
10	37	27	21	16	32	23	18	14	16	13	10	0					

INDOOR CANDELA PLOT



Test Date 12/12/01

PHOTOMETRIC DATA

LUMINAIRE DATA Test 12985

Luminaire	CV-3T8-PERF-E-HRF
	Curv Architectural Curve
	9.5" x 48" 3-Lamp
	with Perforated Highly
	Specular Reflector
Ballast	B332120RHA
Ballast Factor	0.88
Lamp	F32T8
Lumens per Lamp	2900
Watts	88
Mounting	Pendant
Shielding Angle	0° = 90 90° = 90
Spacing Criterion	0° = 1.19 90° = 1.01
Luminous Opening in Feet	Length: 3.54
	Width: 0.33
	Height: 0.00

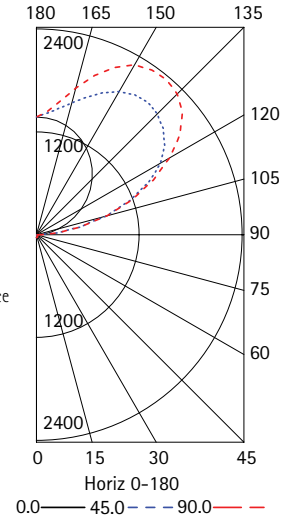
AVG. LUMINANCE (Candela/Sq. M.)

	0.0	22.5	45.0	67.5	90.0
0	313	313	313	313	313
30	287	245	234	245	255
40	277	217	241	265	265
45	274	208	248	274	274
50	258	201	258	272	287
55	225	209	241	289	305
60	203	203	258	295	295
65	174	196	262	305	327
70	162	189	269	323	323
75	142	178	285	320	356
80	106	212	318	371	425
85	211	211	423	529	634

COEFFICIENTS OF UTILIZATION (%)

RCR	80				70				50				
	RW	70	50	30	10	70	50	30	10	50	30	10	0
1	78	75	71	69	67	64	61	59	44	43	41	1	0
2	71	65	60	56	61	56	52	48	39	36	34	1	0
3	65	57	51	46	55	49	44	40	34	31	28	1	0
4	59	50	44	39	50	43	38	34	30	27	24	0	0
5	54	45	38	33	46	38	33	29	27	23	20	0	0
6	50	40	33	28	42	34	29	25	24	20	17	0	0
7	46	35	29	24	39	31	25	21	21	18	15	0	0
8	42	32	25	21	36	27	22	18	19	16	13	0	0
9	39	29	23	18	33	25	20	16	17	14	11	0	0
10	36	26	20	16	31	23	18	14	16	12	10	0	0

INDOOR CANDELA PLOT



Test Date 12/4/01

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	23	0.3	0.3
0-40	37	0.4	0.5
0-60	66	0.8	0.8
0-90	98	1.1	1.3
90-120	2312	26.6	29.4
90-130	3778	43.4	48.1
90-150	6361	73.1	81.0
90-180	7757	89.2	98.7
0-180	7855	90.3	100.0

ENERGY DATA

Total Luminaire Efficiency	90.3%
Luminaire Efficacy Rating (LER)	79
ANSI/IESNA RP-1-2004 Compliance	Yes-VDT Intensive Use
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$3.04 based on 3000 hrs. and \$0.08 per KWH

PHOTOMETRIC DATA

LUMINAIRE DATA Test 13188

Luminaire	CV-1T5HO-PERF-CM-EP
	Curv Architectural Curve
	9.5" x 48" 1-Lamp with
	LS Side Reflectors
Ballast	ICN2S54
Ballast Factor	1.00
Lamp	F54T5
Lumens per Lamp	4400
Watts	63
Mounting	Pendant
Shielding Angle	0° = 90 90° = 90
Spacing Criterion	0° = 1.13 90° = 1.30
Luminous Opening in Feet	Length: 3.54
	Width: 0.33
	Height: 0.00

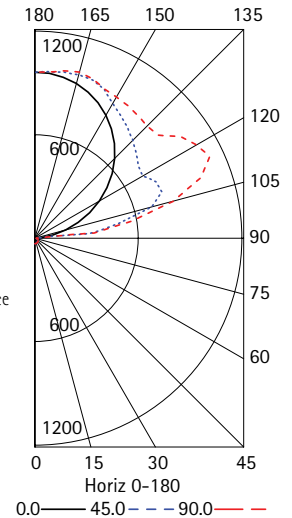
AVG. LUMINANCE (Candela/Sq. M.)

	0.0	22.5	45.0	67.5	90.0
0	295	295	295	295	295
30	255	266	277	287	298
40	241	253	277	313	325
45	222	235	274	326	339
50	186	215	287	344	358
55	177	209	305	353	369
60	147	184	295	350	369
65	131	196	305	371	392
70	135	216	296	404	404
75	142	214	320	427	463
80	159	265	371	478	584
85	211	423	634	846	952

COEFFICIENTS OF UTILIZATION (%)

RCR	80				70				50				
	RW	70	50	30	10	70	50	30	10	50	30	10	0
1	86	82	79	75	74	71	68	65	49	47	46	2	0
2	78	72	66	62	67	62	57	53	43	40	38	1	0
3	71	63	56	51	61	54	49	44	38	34	31	1	0
4	65	55	48	43	56	48	42	37	33	30	27	1	0
5	60	49	42	36	51	42	36	32	29	26	23	1	0
6	55	44	36	31	47	38	31	27	26	22	19	1	0
7	50	39	32	27	43	34	28	23	24	20	17	1	0
8	46	35	28	23	40	30	24	20	21	17	15	1	0
9	43	32	25	20	37	27	22	18	19	15	13	1	0
10	40	29	22	18	34	25	19	16	18	14	11	0	0

INDOOR CANDELA PLOT



Test Date 9/13/02

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	24	0.6	0.6
0-40	40	0.9	0.9
0-60	72	1.6	1.7
0-90	101	2.3	2.3
90-120	1617	36.8	37.1
90-130	2295	52.2	52.7
90-150	3461	78.7	79.4
90-180	4259	96.8	97.7
0-180	4360	99.1	100.0

ENERGY DATA

Total Luminaire Efficiency	99.1%
Luminaire Efficacy Rating (LER)	69
ANSI/IESNA RP-1-2004 Compliance	Yes-VDT Intensive Use
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$3.48 based on 3000 hrs. and \$0.08 per KWH

PHOTOMETRIC DATA

LUMINAIRE DATA Test 12987

Luminaire	CV-1T5HO-PERF-EP-HRF
	Curv Architectural Curve
	9.5" x 48" 1-Lamp
	with Perforated Highly
	Specular Reflector
Ballast	QT1X54/120PHO
Ballast Factor	1.00
Lamp	F54T5
Lumens per Lamp	4400
Watts	61
Mounting	Pendant
Shielding Angle	0° = 90 90° = 90
Spacing Criterion	0° = 1.46 90° = 1.53
Luminous Opening in Feet	Length: 3.54 Width: 0.33 Height: 0.00

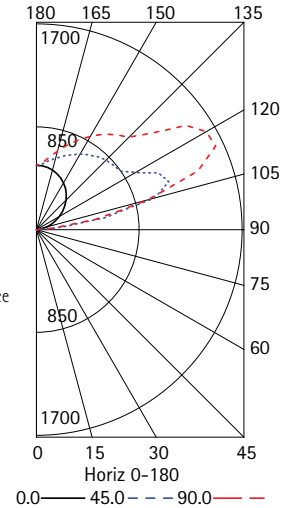
AVG. LUMINANCE (Candela/Sq. M.)

	0.0	22.5	45.0	67.5	90.0
0	28	28	28	28	28
30	32	32	32	32	32
40	24	24	36	36	36
45	26	26	39	39	39
50	29	29	43	43	43
55	32	32	32	38	32
60	37	37	37	37	37
65	22	22	44	44	44
70	27	27	54	54	54
75	36	36	36	71	71
80	53	53	53	53	53
85	106	106	106	106	106

COEFFICIENTS OF UTILIZATION (%)

RCR	80				70				50				0
	RW	70	50	30	10	70	50	30	10	50	30	10	0
1	86	82	78	75	73	70	67	65	48	46	45	0	0
2	78	72	66	61	67	61	57	53	42	39	37	0	0
3	71	63	56	51	61	54	48	44	37	34	31	0	0
4	65	55	48	43	55	47	42	37	33	29	26	0	0
5	59	49	42	36	50	42	36	31	29	25	22	0	0
6	54	43	36	31	46	37	31	27	26	22	19	0	0
7	50	39	32	27	43	33	27	23	23	19	16	0	0
8	46	35	28	23	39	30	24	20	21	17	14	0	0
9	43	32	25	20	36	27	21	18	19	15	12	0	0
10	40	29	22	18	34	25	19	15	17	13	11	0	0

INDOOR CANDELA PLOT



RCR = Room Cavity Ratio
RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	3	0.1	0.1
0-40	4	0.1	0.1
0-60	8	0.2	0.2
0-90	13	0.3	0.3
90-120	1965	44.7	45.0
90-130	2761	62.8	63.3
90-150	3818	86.8	87.5
90-180	4351	98.9	99.7
0-180	4364	99.2	100.0

ENERGY DATA

Total Luminaire Efficiency	99.2%
Luminaire Efficacy Rating (LER)	72
ANSI/IESNA RP-1-2004 Compliance	Yes-VDT Intensive Use
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$3.33 based on 3000 hrs. and \$0.08 per KWH

Test Date 12/18/01

PHOTOMETRIC DATA

LUMINAIRE DATA Test 12933

Luminaire	CV-2T5HO-PERF-EP-HRF
	Curv Architectural Curve
	9.5" x 48" 2-Lamp
	with Perforated Highly
	Specular Reflector
Ballast	QT2X54/120PHO
Ballast Factor	1.00
Lamp	F54T5
Lumens per Lamp	4400
Watts	121
Mounting	Pendant
Shielding Angle	0° = 90 90° = 90
Spacing Criterion	0° = 1.33 90° = 1.23
Luminous Opening in Feet	Length: 3.54 Width: 0.33 Height: 0.00

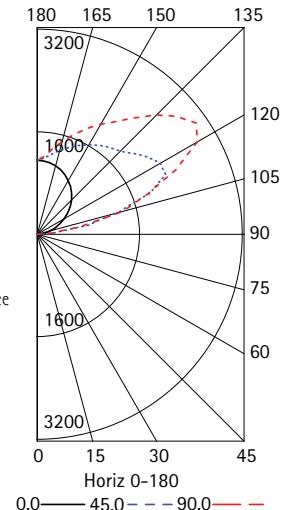
AVG. LUMINANCE (Candela/Sq. M.)

	0.0	22.5	45.0	67.5	90.0
0	64	64	64	64	64
30	64	53	64	64	64
40	60	60	60	72	72
45	65	65	65	78	78
50	72	57	72	86	86
55	64	48	80	80	80
60	55	55	92	92	92
65	44	65	87	87	109
70	54	54	81	108	108
75	71	71	71	107	107
80	53	106	106	106	159
85	106	106	211	211	211

COEFFICIENTS OF UTILIZATION (%)

RCR	80				70				50				0
	RW	70	50	30	10	70	50	30	10	50	30	10	0
1	85	81	77	74	72	69	66	64	47	46	44	0	0
2	77	71	65	61	66	60	56	52	41	39	37	0	0
3	70	62	55	50	60	53	48	44	36	33	31	0	0
4	64	54	47	42	54	47	41	37	32	29	26	0	0
5	59	48	41	36	50	41	35	31	29	25	22	0	0
6	54	43	36	30	46	37	31	26	25	22	19	0	0
7	49	38	31	26	42	33	27	23	23	19	16	0	0
8	45	34	27	23	39	30	24	20	21	17	14	0	0
9	42	31	24	20	36	27	21	17	19	15	12	0	0
10	39	28	22	17	33	24	19	15	17	13	11	0	0

INDOOR CANDELA PLOT



RCR = Room Cavity Ratio
RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	6	0.1	0.1
0-40	9	0.1	0.1
0-60	17	0.2	0.2
0-90	26	0.3	0.3
90-120	3241	36.8	37.6
90-130	4994	56.7	58.0
90-150	7407	84.2	86.0
90-180	8584	97.5	99.7
0-180	8610	97.8	100.0

ENERGY DATA

Total Luminaire Efficiency	97.8%
Luminaire Efficacy Rating (LER)	71
ANSI/IESNA RP-1-2004 Compliance	Yes-VDT Intensive Use
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$3.38 based on 3000 hrs. and \$0.08 per KWH

Test Date 8/31/01