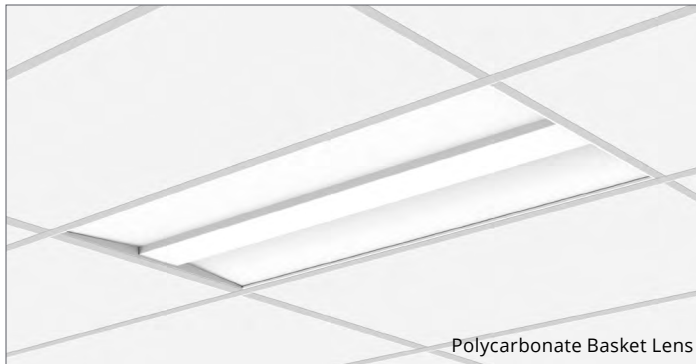


# CARLISLE TC5

LED . RECESSED . DIRECT



Polycarbonate Basket Lens

PART #:	
PREP BY:	DATE:
PROJECT:	
NOTES:	
APPROVAL SIGNATURE:	DATE (DD/MM/YYYY):

## PERFORMANCE SUMMARY @ 3500K

		1 x 4			2 x 2			2 x 4		
		L	W	E	L	W	E	L	W	E
<b>PCB</b> Polycarbonate Basket Lens	L1	3047	23.3	131	2527	20.7	122	3045	22.1	138
	L2	3539	26.6	133	3060	25	122	4068	29.2	139
	L3	4071	30.6	133	3547	29.1	122	5049	36.8	137
	L4	5053	38.2	132	4052	33.7	120	6564	47.9	137
	L5	7005	54.4	129	4576	38.7	118	8074	60.6	133
Color Rendering <sup>1</sup>		80+ CRI								
L80 Estimate		≥ 50,000 hrs								

<sup>1</sup> See page 2 for complete Light Level Performance chart and 90 CRI Lumen Adjustment Factor chart.

## FEATURES

- high performance, classically designed architectural troffer
- delivers balanced amount of light to work stations and walls
- ideal ambient lighting for offices, schools, hospitals and retail applications
- Up to 139 lm/W
- CRI 80+ standard (CRI 90+ optional)
- Rated to deliver L80 performance ≥ 50,000
- IC rated

## ORDERING LOGIC

Example Part Number: TC5-2L35K-24-PCB24-W-L21-T-4-90

TC5										
1	2	3	4	5	6	7	8	9	10	11
1. SERIES <b>TC5</b>	2. COLOR TEMP <b>2L30K</b> 3000K <b>2L35K</b> 3500K <b>2L40K</b> 4000K <b>2LTUN</b> Tunable White* (2700 - 6500K) 90 CRI is available under OPTIONS	3. SIZE <b>14</b> 1 x 4 ft <b>22</b> 2 x 2 ft <b>24</b> 2 x 4 ft <b>2060</b> 20 x 60 in	4. OPTICS <b>PCB</b> Polycarbonate Basket Lens <b>PCB70</b> Polycarbonate Basket Lens with decorative side rails <b>PCB24</b> Polycarbonate Basket Lens with rectangular printed basket overlay and decorative side rails <b>FF</b> Full Face Lens ** <b>FFE</b> Full Face Lens and End Plates **	5. FINISH <b>W</b> White <b>AM</b> Antimicrobial White Paint <b>C</b> Custom Finish*	6. LIGHT LEVEL / DRIVER <b>L1</b> <b>L2</b> <b>L3</b> <b>L4</b> <b>L5</b>	7. CIRCUITRY <b>1</b> 1 Circuit <b>EM</b> Emergency / Night Light * <b>B</b> Battery Pack	8. MOUNTING <b>T</b> Recessed T-bar Recessed Drywall Mounting Kit is available under OPTIONS	9. VOLTAGE <b>3</b> 347V <b>4</b> UNV (120 - 277V)	10. CONTROLS* / SENSORS* <b>CLM</b> Connected Lighting Module _ None (leave space empty)	11. OPTIONS <b>90</b> 90 CRI, High R9 <b>DK14</b> Drywall Mounting Kit 1x4 <b>DK22</b> Drywall Mounting Kit 2x2 <b>DK24</b> Drywall Mounting Kit 2x4 <b>DK2060</b> Drywall Mounting Kit 20x60 <b>AIR</b> Air In / Air Return* _ None (leave space empty)

\*Consult factory. | \*\* Not available with sizes 1x4, 2x2 and 2x4.

### Select Driver:

- FD** Factory standard 0-10V, dimming to 1%
- LHE** Lutron H-Series Hi-lume 1% EcoSystem LED Driver
- LA2** Lutron A-Series Hi-lume 1% 2-wire LED Driver
- L5E** Lutron 5-Series EcoSystem LED Driver

### Light Level Performance at 3500K

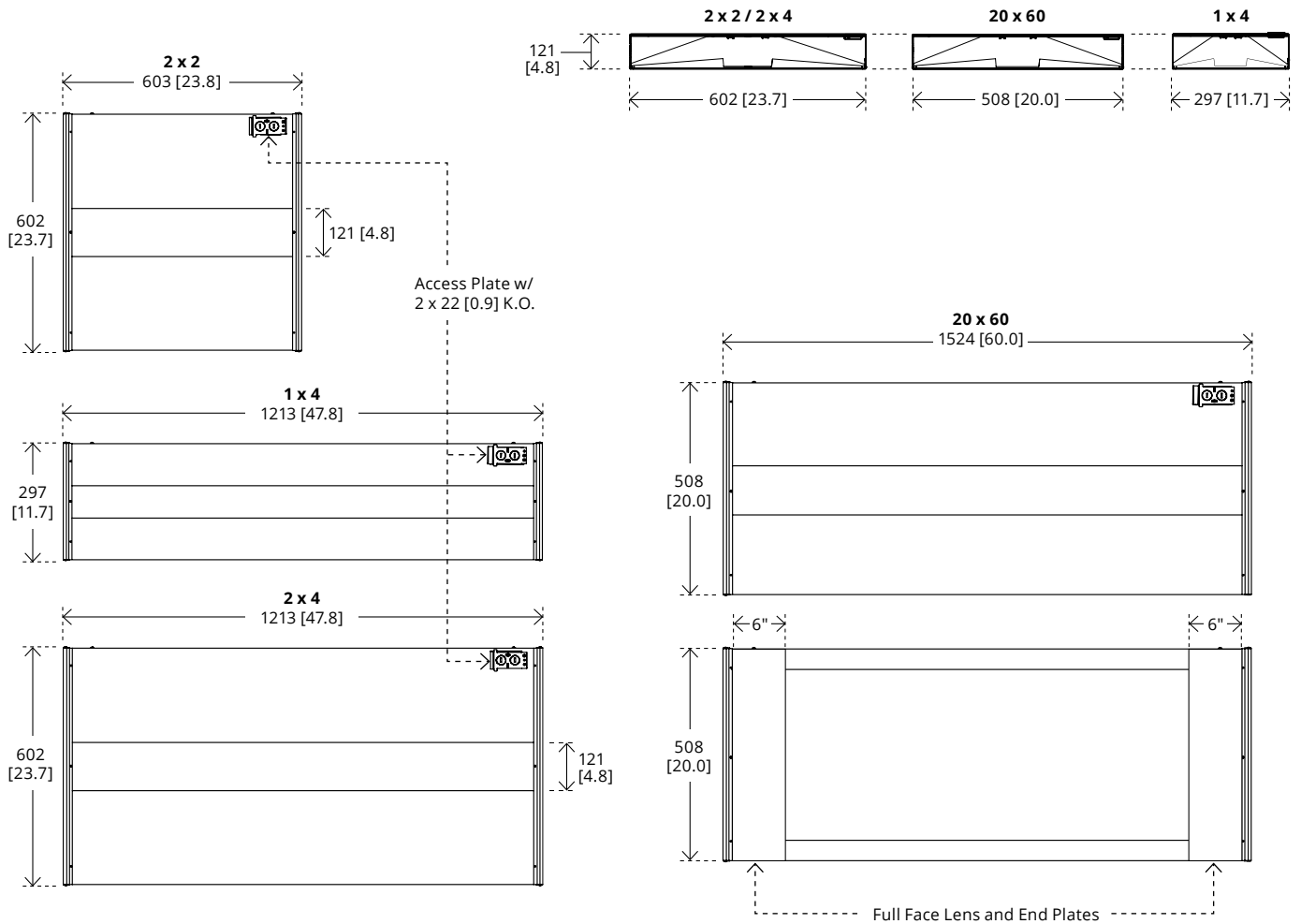
Optics	Light Level	1 x 4			2 x 2			2 x 4			20 x 60		
		Lumens	Wattage	Efficacy (lm/W)	Lumens	Wattage	Efficacy (lm/W)	Lumens	Wattage	Efficacy (lm/W)	Lumens	Wattage	Efficacy (lm/W)
PCB Lens Only	L1	3047	23.3	131	2527	20.7	122	3045	22.1	138	3045	22.1	138
	L2	3539	26.6	133	3060	25	122	4068	29.2	139	4068	29.2	139
	L3	4071	30.6	133	3547	29.1	122	5049	36.8	137	5049	36.8	137
	L4	5053	38.2	132	4052	33.7	120	6564	47.9	137	6564	47.9	137
	L5	7005	54.4	129	4576	38.7	118	8074	60.6	133	8074	60.6	133
PCB70 Lens with Rails	L1	2843	23.2	123	2381	20.7	115	2911	22.2	131	2911	22.2	131
	L2	3302	26.6	124	2883	25	115	3889	29.3	133	3889	29.3	133
	L3	3799	30.5	125	3341	29.1	115	4826	36.7	131	4826	36.7	131
	L4	4715	38.1	124	3818	33.6	114	6273	47.9	131	6273	47.9	131
	L5	6536	53.7	122	4310	38.7	111	7718	60.6	127	7718	60.6	127
PCB24 Lens with Overlay and Rails	L1	2608	23.2	112	2117	20.7	102	2710	22.2	122	2710	22.2	122
	L2	3029	26.6	114	2564	25	103	3620	29.3	124	3620	29.3	124
	L3	3484	30.5	114	2972	29.1	102	4493	36.7	122	4493	36.7	122
	L4	4324	38.1	113	3395	33.6	101	5840	47.9	122	5840	47.9	122
	L5	5994	53.7	112	3834	38.7	99	7185	60.6	119	7185	60.6	119

Optics	Light Level	20 x 60		
		Lumens	Wattage	Efficacy (lm/W)
FF Full Face Lens	L1	2893	21.0	138
	L2	3865	27.7	139
	L3	4797	35.0	137
	L4	6236	45.5	137
	L5	7670	57.6	133
FFE Full Face Lens and End Plates	L1	2984	22.1	135
	L2	3987	29.2	137
	L3	4948	36.8	134
	L4	6433	47.9	134
	L5	7913	60.6	131

### Lumen Adjustment Factor

Color Temp	80 CRI	90 CRI
3000K	0.984	0.873
3500K	1.000	0.875
4000K	1.032	0.879

### CROSS SECTIONS & DIMENSIONS



### SPECIFICATIONS

Due to the Continuous Improvement Policy at Metalumen, we reserve the right to change our specifications without notice.

**Housing:** Die-formed, code gauge pre-painted, high-reflectance white steel housing. Precision formed steel reflector. Wiring access plate and knockout is provided on end plate.  
**Optical System:** White translucent single-piece Polycarbonate diffuser lens is standard. Decorative rails and a rectangular printed overlay is optional.

**CRI:** 80+ CRI  
**Lumen Maintenance:** At an ambient operating temperature of 35°C, the LED lifetime expectancy is ≥ 50 000hrs at L80.  
**Finish:** White, polyester powder painted finish is standard.  
**Mounting:** This luminaire has been designed to fit 9/16" and 15/16" T-bar.

Holes provided for chain-mounting support to building structure. Integral earthquake clips are provided for additional support.  
**Electrical:** Long life LEDs coupled with high efficiency drivers provide quality illumination.  
**Drivers:** Standard low voltage dimming (0-10V).

**Approvals:** cULus listed: 1x4, 2x2 and 2x4 with PCB, PCB70 and PCB24 optics. cULus pending: 20x60 with FF and FFE optics. IC rated.  
**Environment:** Suitable for dry or damp locations.

### WARRANTY

Metalumen will warrant defective luminaires for 5 years from date of purchase. Warranty is valid if luminaire is installed and used according to specification. If defective, Metalumen will send replacement boards or drivers at no cost along with detailed replacement instructions and instructions on how to return defective components to Metalumen.

PHOTOMETRIC DATA - 3500K, 80 CRI, PCB

Optics: Polycarbonate basket lens  
 IES File: TC5-2L35K-14-PCB-W-L3  
 Lumens: 4071 Wattage: 30.6  
 Efficacy: 133

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-20	539	13.20
0-30	1137	27.90
0-40	1843	45.30
0-60	3197	78.50
0-80	3975	97.60
0-90	4071	100.00
10-90	3931	96.60
20-40	1304	32.00
20-50	2021	49.70
40-70	1840	45.20
60-80	778	19.10
70-80	292	7.20
80-90	96	2.40
90-110	0	0.00
90-120	0	0.00
90-130	0	0.00
90-150	0	0.00
90-180	0	0.00
110-180	0	0.00
0-180	4071	100.00

COEFFICIENTS OF UTILIZATION

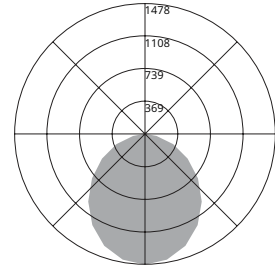
Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

RC	80				70				50			
	RW	70	50	30	10	70	50	30	10	50	30	10
RCR												
0	119	119	119	119	116	116	116	116	111	111	111	111
1	109	104	99	95	106	101	97	94	97	94	91	87
2	99	90	83	78	96	88	82	77	85	80	75	70
3	90	79	71	65	87	78	70	64	75	68	63	57
4	82	70	62	55	80	69	61	54	66	59	54	48
5	76	63	54	47	74	62	53	47	60	52	46	40
6	70	57	48	41	68	56	47	41	54	46	41	35
7	65	51	43	36	63	51	42	36	49	42	36	30
8	61	47	38	33	59	46	38	32	45	38	32	26
9	57	43	35	29	55	43	35	29	41	34	29	23
10	53	40	32	27	52	39	32	27	38	31	26	20

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1478	1478	1478	1478	1478
10	1444	1444	1452	1461	1465
20	1345	1355	1364	1374	1380
30	1192	1207	1223	1230	1237
40	998	1019	1037	1046	1051
50	782	804	828	837	842
60	559	584	606	617	620
70	341	368	389	395	396
80	136	167	180	179	177
90	2	5	6	7	8

PHOTOMETRIC CURVE  
100% Down



Optics: Polycarbonate basket lens  
 IES File: TC5-2L35K-22-PCB-W-L3  
 Lumens: 3547 Wattage: 29.1  
 Efficacy: 122

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-20	476	13.40
0-30	999	28.20
0-40	1617	45.60
0-60	2794	78.80
0-80	3463	97.70
0-90	3547	100.00
10-90	3423	96.50
20-40	1141	32.20
20-50	1766	49.80
40-70	1595	45.00
60-80	670	18.90
70-80	251	7.10
80-90	83	2.30
90-110	0	0.00
90-120	0	0.00
90-130	0	0.00
90-150	0	0.00
90-180	0	0.00
110-180	0	0.00
0-180	3547	100.00

COEFFICIENTS OF UTILIZATION

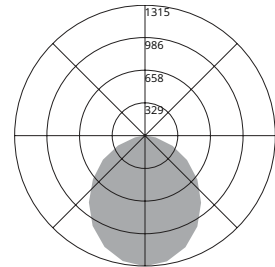
Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

RC	80				70				50			
	RW	70	50	30	10	70	50	30	10	50	30	10
RCR												
0	119	119	119	119	116	116	116	116	111	111	111	111
1	109	104	99	95	106	101	97	94	97	94	91	87
2	99	90	84	78	96	89	82	77	85	80	75	70
3	90	79	71	65	88	78	70	64	75	68	63	57
4	83	70	62	55	80	69	61	55	67	59	54	48
5	76	63	54	47	74	62	53	47	60	52	47	40
6	70	57	48	41	68	56	47	41	54	47	41	35
7	65	52	43	37	63	51	42	37	49	42	36	30
8	61	47	39	33	59	46	38	33	45	38	32	26
9	57	43	35	30	55	43	35	29	42	34	29	23
10	53	40	32	27	52	39	32	27	38	31	26	20

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1315	1315	1315	1315	1315
10	1284	1279	1281	1286	1289
20	1194	1192	1196	1204	1209
30	1054	1055	1067	1076	1083
40	880	886	902	915	924
50	688	696	717	732	741
60	491	501	522	539	546
70	298	304	331	347	354
80	110	130	158	172	178
90	2	4	3	3	3

PHOTOMETRIC CURVE  
100% Down



LUMINANCE DATA (CD/M²)

Vertical Angle	Horizontal Angle		
	0	45	90
45	2980	3077	3164
55	2762	2903	3016
65	2508	2711	2862
75	2117	2537	2762
85	1727	2479	2788

Optics: Polycarbonate basket lens  
 IES Files: TC5-2L35K-24-PCB-W-L3  
 TC5-2L35K-2060-PCB-W-L3  
 Lumens: 5049 Wattage: 36.8  
 Efficacy: 137

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-20	632	12.50
0-30	1339	26.50
0-40	2184	43.30
0-60	3846	76.20
0-80	4874	96.50
0-90	5049	100.00
10-90	4886	96.80
20-40	1553	30.70
20-50	2424	48.00
40-70	2286	45.30
60-80	1028	20.40
70-80	404	8.00
80-90	175	3.50
90-110	0	0.00
90-120	0	0.00
90-130	0	0.00
90-150	0	0.00
90-180	0	0.00
110-180	0	0.00
0-180	5049	100.00

COEFFICIENTS OF UTILIZATION

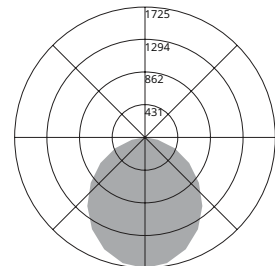
Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

RC	80				70				50			
	RW	70	50	30	10	70	50	30	10	50	30	10
RCR												
0	119	119	119	119	116	116	116	116	111	111	111	111
1	108	103	98	94	105	100	96	92	96	93	90	86
2	98	89	82	76	95	87	81	75	84	78	73	67
3	89	78	70	63	87	77	69	62	73	67	61	55
4	81	69	60	53	79	68	59	53	65	58	52	46
5	75	62	52	46	73	61	52	45	58	51	45	39
6	69	56	46	40	67	55	46	40	53	45	39	33
7	64	50	41	35	62	50	41	35	48	40	35	29
8	60	46	37	31	58	45	37	31	44	36	31	25
9	56	42	34	28	54	42	34	28	40	33	28	22
10	52	39	31	26	51	38	31	26	37	30	25	19

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1725	1725	1725	1725	1725
10	1685	1687	1699	1711	1717
20	1572	1588	1606	1625	1635
30	1399	1423	1454	1474	1487
40	1180	1213	1250	1277	1290
50	934	970	1017	1046	1059
60	676	715	764	798	811
70	419	461	513	545	556
80	175	222	276	306	315
90	4	34	67	87	89

PHOTOMETRIC CURVE  
100% Down



LUMINANCE DATA (CD/M²)

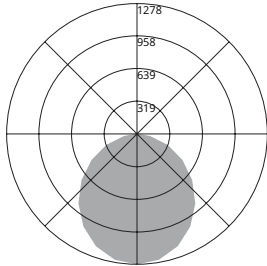
Vertical Angle	Horizontal Angle		
	0	45	90
45	2010	2155	2233
55	1886	2086	2191
65	1741	2030	2174
75	1542	2046	2263
85	1378	2643	3117



PHOTOMETRIC DATA - 3500K, 80 CRI, PCB24

Optics: Polycarbonate basket lens with overlay and side rails
IES File: TC5-2L35K-14-PCB24-W-L3
Lumens: 3484 Wattage: 30.5
Efficacy: 114

PHOTOMETRIC CURVE
100% Down



ZONAL LUMEN SUMMARY

Table with 3 columns: Zone, Lumens, %Fixt. Rows include zones from 0-20 to 0-180.

COEFFICIENTS OF UTILIZATION

Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

Table with 4 columns: RC, RW, RCR, and 12 rows of utilization coefficients for various angles.

CANDELA DISTRIBUTION

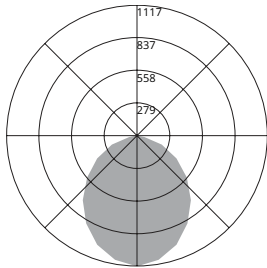
Table with 5 columns: Vertical Angle, 0, 22.5, 45, 67.5, 90. Rows show candela values.

LUMINANCE DATA (CD/M²)

Table with 3 columns: Vertical Angle, Horizontal Angle, and 5 rows of luminance values.

Optics: Polycarbonate basket lens with overlay and side rails
IES File: TC5-2L35K-22-PCB24-W-L3
Lumens: 2972 Wattage: 29.1
Efficacy: 102

PHOTOMETRIC CURVE
100% Down



ZONAL LUMEN SUMMARY

Table with 3 columns: Zone, Lumens, %Fixt. Rows include zones from 0-20 to 0-180.

COEFFICIENTS OF UTILIZATION

Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

Table with 4 columns: RC, RW, RCR, and 12 rows of utilization coefficients for various angles.

CANDELA DISTRIBUTION

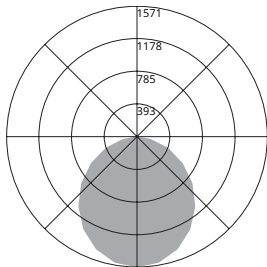
Table with 5 columns: Vertical Angle, 0, 22.5, 45, 67.5, 90. Rows show candela values.

LUMINANCE DATA (CD/M²)

Table with 3 columns: Vertical Angle, Horizontal Angle, and 5 rows of luminance values.

Optics: Polycarbonate basket lens with overlay and side rails
IES Files: TC5-2L35K-24-PCB24-W-L3
TC5-2L35K-2060-PCB24-W-L3
Lumens: 4493 Wattage: 36.7
Efficacy: 122

PHOTOMETRIC CURVE
100% Down



ZONAL LUMEN SUMMARY

Table with 3 columns: Zone, Lumens, %Fixt. Rows include zones from 0-20 to 0-180.

COEFFICIENTS OF UTILIZATION

Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

Table with 4 columns: RC, RW, RCR, and 12 rows of utilization coefficients for various angles.

CANDELA DISTRIBUTION

Table with 5 columns: Vertical Angle, 0, 22.5, 45, 67.5, 90. Rows show candela values.

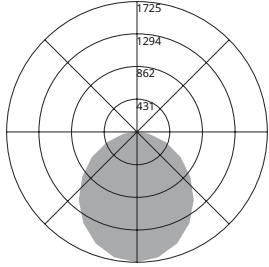
LUMINANCE DATA (CD/M²)

Table with 3 columns: Vertical Angle, Horizontal Angle, and 5 rows of luminance values.

PHOTOMETRIC DATA - 3500K, 80 CRI, FF

Optics: **Full Face Lens**  
 IES File: **TC5-2L35K-2060-FF-W-L3**  
 Lumens: **4797**    Wattage: **36.8**  
 Efficacy: **130**

PHOTOMETRIC CURVE  
 100% Down



ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-20	632	12.50
0-30	1339	26.50
0-40	2184	43.30
0-60	3846	76.20
0-80	4874	96.50
0-90	5049	100.00
10-90	4886	96.80
20-40	1553	30.70
20-50	2424	48.00
40-70	2286	45.30
60-80	1028	20.40
70-80	404	8.00
80-90	175	3.50
90-110	0	0.00
90-120	0	0.00
90-130	0	0.00
90-150	0	0.00
90-180	0	0.00
110-180	0	0.00
0-180	5049	100.00

COEFFICIENTS OF UTILIZATION

Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

RC	80				70				50			
	RW	70	50	30	10	70	50	30	10	50	30	10
RCR												
0	119	119	119	119	116	116	116	116	111	111	111	111
1	108	103	98	94	105	100	96	92	96	93	90	87
2	98	89	82	76	95	87	81	75	84	78	73	67
3	89	78	70	63	87	77	69	62	73	67	61	55
4	81	69	60	53	79	68	59	53	65	58	52	46
5	75	62	52	46	73	61	52	45	58	51	45	39
6	69	56	46	40	67	55	46	40	53	45	39	33
7	64	50	41	35	62	50	41	35	48	40	35	29
8	60	46	37	31	58	45	37	31	44	36	31	25
9	56	42	34	28	54	42	34	28	40	33	28	22
10	52	39	31	26	51	38	31	26	37	30	25	19

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1725	1725	1725	1725	1725
10	1685	1687	1699	1711	1717
20	1572	1588	1606	1625	1635
30	1399	1423	1454	1474	1487
40	1180	1213	1250	1277	1290
50	934	970	1017	1046	1059
60	676	715	764	798	811
70	419	461	513	545	556
80	175	222	276	306	315
90	4	34	67	87	89

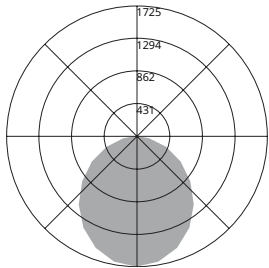
LUMINANCE DATA (CD/M²)

Vertical Angle	Horizontal Angle		
	0	45	90
45	2010	2155	2233
55	1886	2086	2191
65	1741	2030	2174
75	1542	2046	2263
85	1378	2643	3117

PHOTOMETRIC DATA - 3500K, 80 CRI, FFE

Optics: **Full Face Lens and End Plates**  
 IES File: **TC5-2L35K-2060-FFE-W-L3**  
 Lumens: **4948**    Wattage: **36.8**  
 Efficacy: **134**

PHOTOMETRIC CURVE  
 100% Down



ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-20	632	12.50
0-30	1339	26.50
0-40	2184	43.30
0-60	3846	76.20
0-80	4874	96.50
0-90	5049	100.00
10-90	4886	96.80
20-40	1553	30.70
20-50	2424	48.00
40-70	2286	45.30
60-80	1028	20.40
70-80	404	8.00
80-90	175	3.50
90-110	0	0.00
90-120	0	0.00
90-130	0	0.00
90-150	0	0.00
90-180	0	0.00
110-180	0	0.00
0-180	5049	100.00

COEFFICIENTS OF UTILIZATION

Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

RC	80				70				50			
	RW	70	50	30	10	70	50	30	10	50	30	10
RCR												
0	119	119	119	119	116	116	116	116	111	111	111	111
1	108	103	98	94	105	100	96	92	96	93	90	87
2	98	89	82	76	95	87	81	75	84	78	73	67
3	89	78	70	63	87	77	69	62	73	67	61	55
4	81	69	60	53	79	68	59	53	65	58	52	46
5	75	62	52	46	73	61	52	45	58	51	45	39
6	69	56	46	40	67	55	46	40	53	45	39	33
7	64	50	41	35	62	50	41	35	48	40	35	29
8	60	46	37	31	58	45	37	31	44	36	31	25
9	56	42	34	28	54	42	34	28	40	33	28	22
10	52	39	31	26	51	38	31	26	37	30	25	19

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1725	1725	1725	1725	1725
10	1685	1687	1699	1711	1717
20	1572	1588	1606	1625	1635
30	1399	1423	1454	1474	1487
40	1180	1213	1250	1277	1290
50	934	970	1017	1046	1059
60	676	715	764	798	811
70	419	461	513	545	556
80	175	222	276	306	315
90	4	34	67	87	89

LUMINANCE DATA (CD/M²)

Vertical Angle	Horizontal Angle		
	0	45	90
45	2010	2155	2233
55	1886	2086	2191
65	1741	2030	2174
75	1542	2046	2263
85	1378	2643	3117