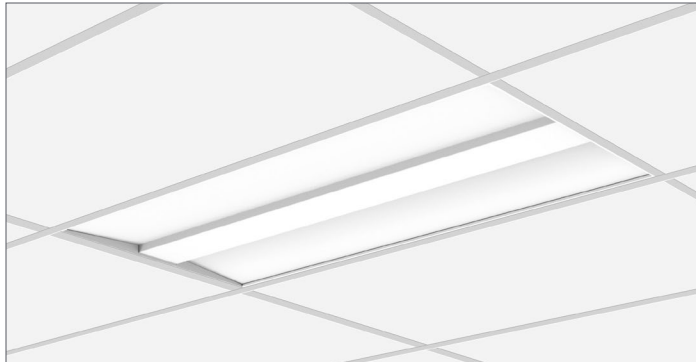


# CARLISLE TC5

LED . RECESSED . DIRECT



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

**PERFORMANCE SUMMARY**  
3500K, 80 CRI

		1 x 4			2 x 2			2 x 4		
		Lumens	Wattage	Efficacy	Lumens	Wattage	Efficacy	Lumens	Wattage	Efficacy
PCB Lens Only	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 (CRI) <sup>1</sup>		80+								
L80 Estimate (h)		≥ 50,000 hrs								

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

## FEATURES

- Up to 139 LPW
- CRI 80+ standard (CRI 90+ optional)
- Rated to deliver L80 performance ≥ 50,000

## 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
<b>1. SERIES</b> <b>TC5</b>	<b>2. COLOR TEMP</b> <b>2L30K</b> 3000K <b>2L35K</b> 3500K <b>2L40K</b> 4000K <b>2LTUN</b> Tunable White (2700 - 6500K) (Consult Factory) CRI 90 is available under OPTIONS	<b>3. SIZE</b> <b>14</b> 1 x 4 ft <b>22</b> 2 x 2 ft <b>24</b> 2 x 4 ft	<b>4. OPTICS</b> <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>5. FINISH</b> <b>W</b> White <b>C</b> Custom Finish (Consult Factory)	<b>6. LIGHT LEVEL / DRIVER</b> <b>L1</b> <b>L2</b> Select Driver below. <b>L3</b> See a complete Light Level Performance chart on page 2. <b>L4</b> <b>L5</b>	<b>7. CIRCUITRY</b> <b>1</b> 1 Circuit <b>EM</b> Emergency / Night Light (Consult factory) <b>B</b> Battery Pack	<b>8. MOUNTING</b> <b>T</b> Recessed T-bar Recessed Drywall Mounting Kit is available under OPTIONS	<b>9. VOLTAGE</b> <b>3</b> 347V <b>4</b> UNV(120 - 277V)	<b>10. CONTROLS / SENSORS</b> Consult factory	<b>11. OPTIONS</b> <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 _ None (leave space empty)

### Select Driver:

- Factory standard 0-10V, dimming to 1%
- LHE** Lutron H-Series Hi-lume 1% EcoSystem LED Driver
- LAE** Lutron A-Series Hi-lume 1% EcoSystem LED Driver
- LA3** Lutron A-Series Hi-lume 1% 3-wire LED Driver
- LA2** Lutron A-Series Hi-lume 1% 2-wire LED Driver
- L5E** Lutron 5-Series EcoSystem LED Driver

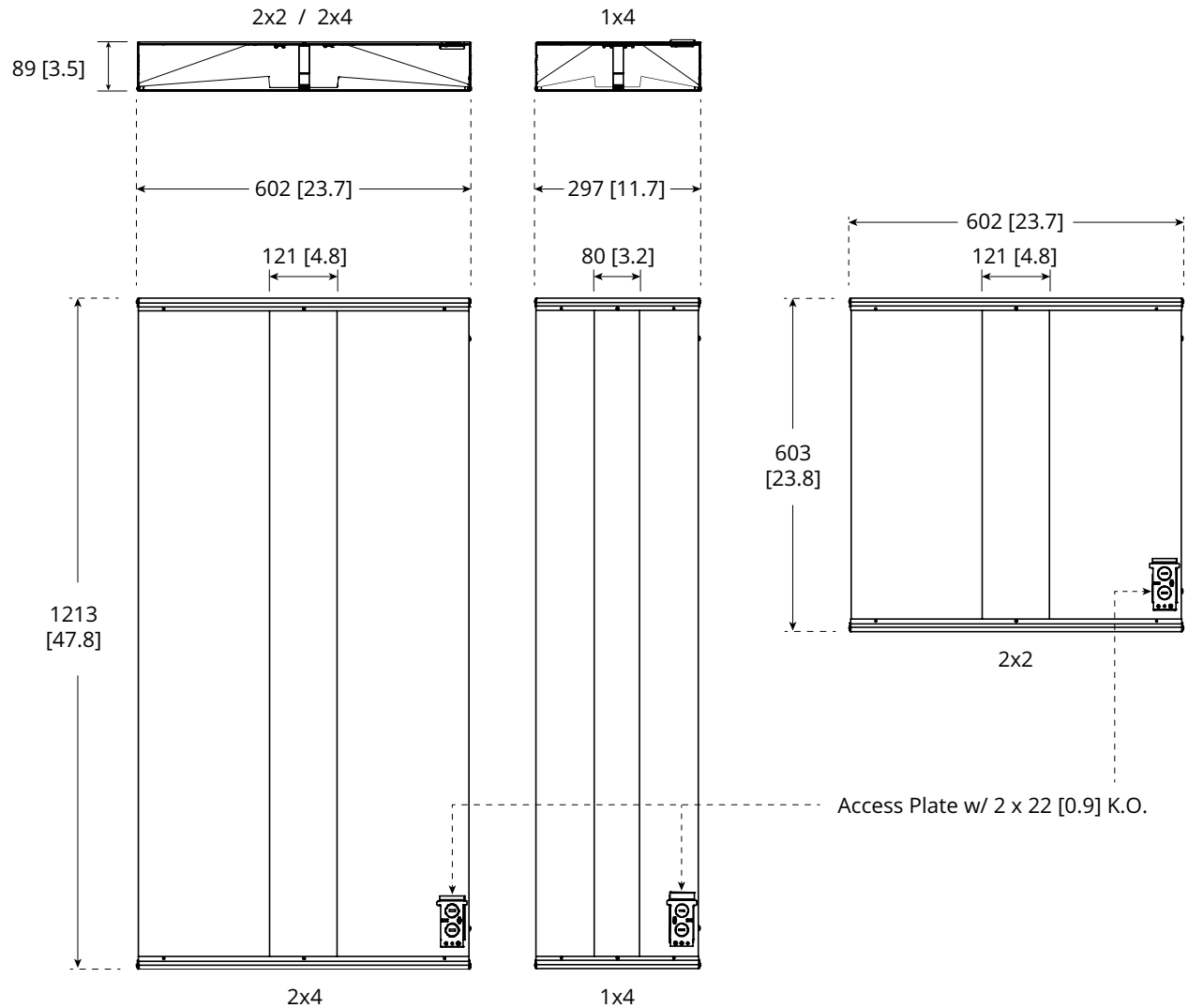
Light Level Performance at 3500K

Optics	Light Level	1 x 4			2 x 2			2 x 4		
		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
	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
PCB70 Lens with Rails	L1	2843	23.2	123	2381	20.7	115	2911	22.2	131
	L2	3302	26.6	124	2883	25	115	3889	29.3	133
	L3	3799	30.5	125	3341	29.1	115	4826	36.7	131
	L4	4715	38.1	124	3818	33.6	114	6273	47.9	131
	L5	6536	53.7	122	4310	38.7	111	7718	60.6	127
PCB24 Lens with Overlay and Rails	L1	2608	23.2	112	2117	20.7	102	2710	22.2	122
	L2	3029	26.6	114	2564	25	103	3620	29.3	124
	L3	3484	30.5	114	2972	29.1	102	4493	36.7	122
	L4	4324	38.1	113	3395	33.6	101	5840	47.9	122
	L5	5994	53.7	112	3834	38.7	99	7185	60.6	119

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  $\geq 50\,000$ hrs at L80.  
**Finish:** White, polyester powder painted finish is standard.  
**Weight:** 1x4 = 7.3 kg [16 lbs]  
 2x2 = 6.8 kg [15 lbs]

2x4 = 9.5 kg [21 lbs]  
**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:** Pending approval to CSA/UL standards.  
**Environment:** Suitable for dry or damp locations.

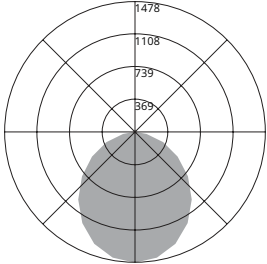
### WARRANTY

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

PHOTOMETRIC CURVE  
100% Down



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

CANDELA DISTRIBUTION

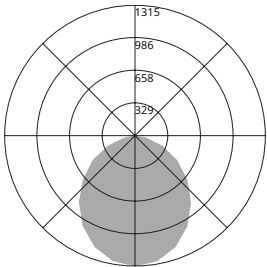
Vertical Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1478	1478	1478	1478	1478
10	1444	1444	1452	1461	1465
20	1345	1355	1364	1374	1380
30	1192	1207	1223	1230	1237
40	998	1019	1037	1046	1051
50	782	804	828	837	842
60	559	584	606	617	620
70	341	368	389	395	396
80	136	167	180	179	177
90	2	5	6	7	8

LUMINANCE DATA (CD/M²)

Vertical Angle	Horizontal Angle		
	0	45	90
45	3384	3545	3599
55	3143	3360	3426
65	2865	3165	3232
75	2478	2958	2980
85	2131	2876	2855

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

PHOTOMETRIC CURVE  
100% Down



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

CANDELA DISTRIBUTION

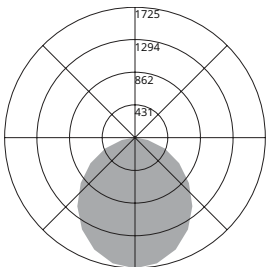
Vertical Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1315	1315	1315	1315	1315
10	1284	1279	1281	1286	1289
20	1194	1192	1196	1204	1209
30	1054	1055	1067	1076	1083
40	880	886	902	915	924
50	688	696	717	732	741
60	491	501	522	539	546
70	298	304	331	347	354
80	110	130	158	172	178
90	2	4	3	3	3

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 File: TC5-2L35K-24-PCB-W-L3  
Lumens: 5049 Wattage: 36.8  
Efficacy: 137

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

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

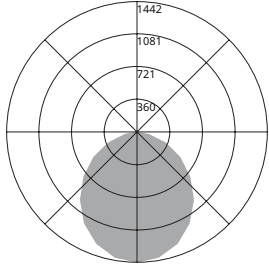
LUMINANCE DATA (CD/M²)

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, PCB70

Optics: Polycarbonate basket lens with side rails  
 IES File: TC5-2L35K-14-PCB70-W-L3  
 Lumens: 3799 Wattage: 30.5  
 Efficacy: 125

PHOTOMETRIC CURVE  
 100% Down



ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-20	524	13.80
0-30	1099	28.90
0-40	1773	46.70
0-60	3038	79.90
0-80	3723	98.00
0-90	3799	100.00
10-90	3663	96.40
20-40	1249	32.90
20-50	1925	50.70
40-70	1702	44.80
60-80	685	18.00
70-80	248	6.50
80-90	77	2.00
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	3799	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	10
RCR												
0	119	119	119	119	116	116	116	116	111	111	111	111
1	109	104	100	96	106	102	98	95	98	94	92	92
2	99	91	84	79	97	89	83	78	86	80	76	76
3	91	80	72	66	88	79	71	65	76	69	64	64
4	83	71	62	56	81	70	62	55	67	60	55	55
5	76	64	55	48	74	63	54	48	60	53	47	47
6	71	57	49	42	69	56	48	42	55	47	42	42
7	66	52	43	37	64	51	43	37	50	42	37	37
8	61	48	39	33	60	47	39	33	46	38	33	33
9	57	44	36	30	56	43	35	30	42	35	30	30
10	54	40	33	27	52	40	32	27	39	32	27	27

CANDELA DISTRIBUTION

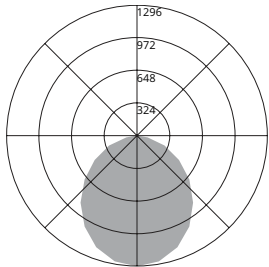
Vertical Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1442	1442	1442	1442	1442
10	1409	1407	1413	1421	1424
20	1314	1320	1318	1319	1321
30	1166	1172	1169	1164	1166
40	979	984	980	973	972
50	770	773	770	759	756
60	553	556	549	539	535
70	338	342	337	327	322
80	135	147	140	127	121
90	2	4	5	6	6

LUMINANCE DATA (CD/M²)

Vertical Angle	Horizontal Angle		
	0	45	90
45	3324	3328	3284
55	3100	3092	3025
65	2836	2818	2724
75	2459	2474	2301
85	2117	2235	1968

Optics: Polycarbonate basket lens with side rails  
 IES File: TC5-2L35K-22-PCB70-W-L3  
 Lumens: 3341 Wattage: 29.1  
 Efficacy: 115

PHOTOMETRIC CURVE  
 100% Down



ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-20	466	14.00
0-30	975	29.20
0-40	1569	47.00
0-60	2677	80.10
0-80	3274	98.00
0-90	3341	100.00
10-90	3219	96.30
20-40	1103	33.00
20-50	1696	50.70
40-70	1489	44.60
60-80	597	17.90
70-80	216	6.50
80-90	67	2.00
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	3341	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	10
RCR												
0	119	119	119	119	116	116	116	116	111	111	111	111
1	109	104	100	96	106	102	98	95	98	94	92	92
2	99	91	84	79	97	89	83	78	86	80	76	76
3	91	80	72	66	88	79	71	65	76	69	64	64
4	83	71	63	56	81	70	62	56	67	60	55	55
5	77	64	55	48	74	63	54	48	61	53	48	48
6	71	58	49	42	69	57	48	42	55	47	42	42
7	66	52	44	38	64	52	43	37	50	43	37	37
8	61	48	39	34	60	47	39	33	46	38	33	33
9	57	44	36	30	56	43	36	30	42	35	30	30
10	54	41	33	28	52	40	33	27	39	32	27	27

CANDELA DISTRIBUTION

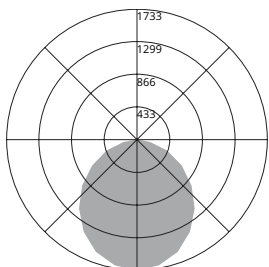
Vertical Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1296	1296	1296	1296	1296
10	1265	1258	1258	1262	1265
20	1176	1171	1166	1167	1169
30	1039	1032	1029	1026	1029
40	867	861	858	857	859
50	678	671	671	669	671
60	484	477	476	477	477
70	292	282	290	291	292
80	107	114	125	126	125
90	2	3	3	3	2

LUMINANCE DATA (CD/M²)

Vertical Angle	Horizontal Angle		
	0	45	90
45	2936	2906	2909
55	2721	2689	2692
65	2468	2437	2446
75	2074	2154	2166
85	1673	1974	1973

Optics: Polycarbonate basket lens with side rails  
 IES File: TC5-2L35K-24-PCB70-W-L3  
 Lumens: 4826 Wattage: 36.7  
 Efficacy: 131

PHOTOMETRIC CURVE  
 100% Down



ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-20	631	13.10
0-30	1331	27.60
0-40	2162	44.80
0-60	3767	78.10
0-80	4699	97.40
0-90	4826	100.00
10-90	4662	96.60
20-40	1531	31.70
20-50	2380	49.30
40-70	2184	45.30
60-80	932	19.30
70-80	353	7.30
80-90	127	2.60
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	4826	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	10
RCR												
0	119	119	119	119	116	116	116	116	111	111	111	111
1	108	103	99	95	106	101	97	94	97	94	91	91
2	98	90	83	77	96	88	82	76	85	79	75	75
3	90	79	71	64	87	77	70	64	74	68	62	62
4	82	70	61	54	80	69	60	54	66	59	53	53
5	76	63	54	47	73	62	53	47	59	52	46	46
6	70	56	47	41	68	55	47	41	54	46	40	40
7	65	51	42	36	63	50	42	36	49	41	36	36
8	60	47	38	32	59	46	38	32	45	37	32	32
9	56	43	35	29	55	42	34	29	41	34	29	29
10	53	40	32	26	52	39	31	26	38	31	26	26

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1733	1733	1733	1733	1733
10	1693	1691	1697	1707	1711
20	1583	1588	1594	1603	1609
30	1411	1419	1430	1439	1447
40	1193	1203	1219	1231	1239
50	947	956	980	988	993
60	687	698	718	729	732
70	427	440	460	469	470
80	179	198	221	228	228
90	4	13	22	26	26

LUMINANCE DATA (CD/M²)

Vertical Angle	Horizontal Angle		
	0	45	90
45	2034	2089	2122
55	1914	1989	2021
65	1771	1873	1911
75	1575	1769	1812
85	1413	1874	1960

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

ZONAL LUMEN SUMMARY

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

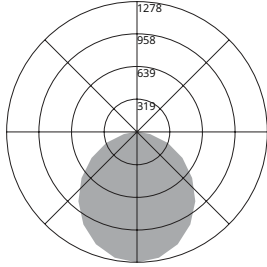
COEFFICIENTS OF UTILIZATION

Table with 4 columns: RC, RW, RCR, and three sets of zone values (80, 70, 50). Rows include RC, RW, RCR values and zone numbers.

CANDELA DISTRIBUTION

Table with 5 columns: Vertical Angle, and four horizontal angles (0, 22.5, 45, 67.5, 90). Rows include vertical angles from 0 to 90.

PHOTOMETRIC CURVE
100% Down



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

ZONAL LUMEN SUMMARY

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

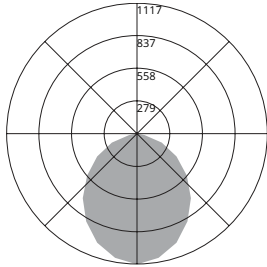
COEFFICIENTS OF UTILIZATION

Table with 4 columns: RC, RW, RCR, and three sets of zone values (80, 70, 50). Rows include RC, RW, RCR values and zone numbers.

CANDELA DISTRIBUTION

Table with 5 columns: Vertical Angle, and four horizontal angles (0, 22.5, 45, 67.5, 90). Rows include vertical angles from 0 to 90.

PHOTOMETRIC CURVE
100% Down



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

ZONAL LUMEN SUMMARY

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

COEFFICIENTS OF UTILIZATION

Table with 4 columns: RC, RW, RCR, and three sets of zone values (80, 70, 50). Rows include RC, RW, RCR values and zone numbers.

CANDELA DISTRIBUTION

Table with 5 columns: Vertical Angle, and four horizontal angles (0, 22.5, 45, 67.5, 90). Rows include vertical angles from 0 to 90.

PHOTOMETRIC CURVE
100% Down

