



FIGURE 4.1 THE CIE C,  $\gamma$  ANGULAR COORDINATE SYSTEM DEFINING THE DIRECTION OF LIGHT EMITTED FROM A LUMINAIRE

*Pictorial representation of the CIE/SAASTAN angular system*

**TABLE 4.1**  
**STANDARD FORMAT FOR LUMINAIRE LIGHT DISTRIBUTION, KNOWN AS**  
**AN I-TABLE, GIVING VALUES OF LUMINOUS INTENSITY (*I*) IN**  
**CANDELAS PER 1000 LAMP LUMENS**

$\gamma$ angle degrees	Luminous intensity, ( <i>I</i> ), cd/1000 lamp lumens								
	C angle, degrees								
	270	285	300	310	← (5°steps) →	50	60	75	90
0 ↑ (10° steps) ↓	x	x	x	x		x	x	x	x
30 ↑ (5° steps) ↓	x	x	x	x		x	x	x	x
45 ↑ (2.5° steps) ↓	x	x	x	x		x	x	x	x
105 ↑ (15° steps) ↓	x	x	x	x		x	x	x	x
180	x	x	x	x		x	x	x	x

$\gamma$ angle degrees	Luminous intensity, ( <i>I</i> ), cd/1000 lamp lumens								
	135 C angle, degrees								
	105	120	130	140	← (5°steps) →	230	240	255	
0 ↑ (10° steps) ↓	x	x	x	x		x	x	x	
30 ↑ (5° steps) ↓	x	x	x	x		x	x	x	
45 ↑ (2.5° steps) ↓	x	x	x	x		x	x	x	
105 ↑ (15° steps) ↓	x	x	x	x		x	x	x	
180	x	x	x	x		x	x	x	

NOTE: The table is divided into two halves. The luminous intensities need only be provided for the *C*,  $\gamma$  coordinates in the top half of the table where the luminaire has a light distribution which is symmetrical about the half-planes  $C = 270^\circ$  and  $C = 90^\circ$

***The respective angles of the CIE/SAASTAN system***

**4.5.3 Luminaire light distribution.** The data required specify the luminaire and its light distribution as given by the values of luminous intensity, expressed in candelas per 1000 lamp lumens, contained in the appropriate *I*-table (see Table 4.2).

- (a) *Record No 1.* Record No 1 specifies the user defined number and name of the luminaire and information on the symmetry of the light distribution.

Datum

- 1 LNUMB —the identification number of the luminaire up to a maximum of 4 digits. The luminaire number must be the same as that given in Record No 2 of Clause 4.5.2.
- 2 ISYM —a code indicating the symmetrical nature of the light distribution about the  $C = 90^\circ$  and  $C = 270^\circ$  half-planes (see Clause 4.4.2).  
ISYM = 0 indicates asymmetry  
ISYM = 1 indicates symmetry
- 3 IGRID —a code indicating the format of the *I*-table. This value must be 0 (zero) which corresponds to the standard format of Table 4.2.
- 4 RLNAME—the name of the luminaire, if desired, up to a maximum of 20 characters. If the luminaire name is given it will appear in the output.

Format: (3I4,8X,5A4)

- (b) *Record No 2 and succeeding records.* Record No 2 and succeeding records specify the  $I(C, \gamma)$ —values of the *I*-table (see Table 4.2). They are given 17 to a record in the following continuous sequences depending on the symmetry of the light distribution.

### ***Format of the CIE/SAASTAN (text) file***

**TABLE B1****I-TABLE IN CIE 132 FORMAT FOR LUM3.DAT—250 W SON -T LUMINAIRE**

1	1	0	Category	V	S250C	Roadway	Luminaire
156	156	156	156	156	156	156	156
156	156	156	156	156	156	156	156
156	156	156	156	156	156	156	156
143	145	148	150	152	155	157	159
166	165	166	131	142	148	143	142
180	182	184	186	183	181	178	171
186	190	189	194	202	207	210	210
165	164	155	140	132	127	163	177
263	268	271	273	272	266	251	221
160	164	171	174	188	206	223	238
258	255	234	193	168	158	136	132
230	245	254	259	266	269	269	268
138	139	127	131	139	146	156	169
268	263	255	244	236	228	216	208
161	181	200	218	237	249	255	260
189	178	147	134	129	106	112	123
262	267	270	269	261	253	241	229
115	124	134	146	167	187	212	229
217	206	192	169	150	128	114	107
226	245	258	266	276	283	284	272
97	79	92	100	115	123	136	156
286	264	237	216	197	170	150	129
152	174	195	220	249	280	303	321
117	99	83	78	61	69	86	104
375	390	390	353	307	263	222	188
97	107	122	141	160	182	215	250
184	152	125	106	85	66	61	44
214	250	305	351	386	404	386	333
30	37	58	79	90	96	97	103
303	246	204	172	138	106	94	74
45	55	65	80	111	161	207	242
68	49	36	14	13	14	15	16
156	163	150	129	112	94	99	107
12	13	15	19	23	28	30	40
27	27	33	32	25	18	8	8
23	29	34	39	40	38	35	32
5	5	6	6	8	10	13	12
17	17	16	12	11	10	9	9
9	9	10	13	15	15	14	13
7	8	4	3	4	4	4	6
12	10	8	7	6	6	6	5
4	5	5	5	6	7	8	8
4	4	4	8	11	3	3	3
7	7	7	6	5	5	4	4
3	3	3	3	4	4	4	5
3	3	3	3	2	2	8	3
4	4	5	5	5	4	4	3
5	3	3	3	3	4	4	3
4	3	3	2	2	2	2	2
4	4	3	3	4	5	5	5
2	2	1	1	2	2	2	2
3	2	2	2	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

*Example of a CIE/SAASTAN i-table data file (symmetrical distribution)*