

filename : 24V-RD-TS-V2-14.LDT  
 meas. number : 3140  
 luminaire number : 24V-RD-TS-V2-14  
 date / operator : 20-3-2020

**default lamp type(s)**

no of lamps	lamp type	luminaire lumens	input wattage
1	LED MODULE	2245 lm	24.6 W

**dimensions**

luminaire		luminous area	
length	: 1025 mm	length	: 965 mm
width	: 35 mm	width	: 30 mm
height	: 35 mm	height	: 30 mm

**coordinate system**

no of planes	: 7	samples / plane	: 37
first c-plane	: 0.0 °	first gamma-angle	: 0.0 °
step angle	: 15.0 °	step angle	: 5.0 °
last c-plane	: 90.0 °	last gamma-angle	: 180.0 °
symmetrics : symmetry to C0 / C90			

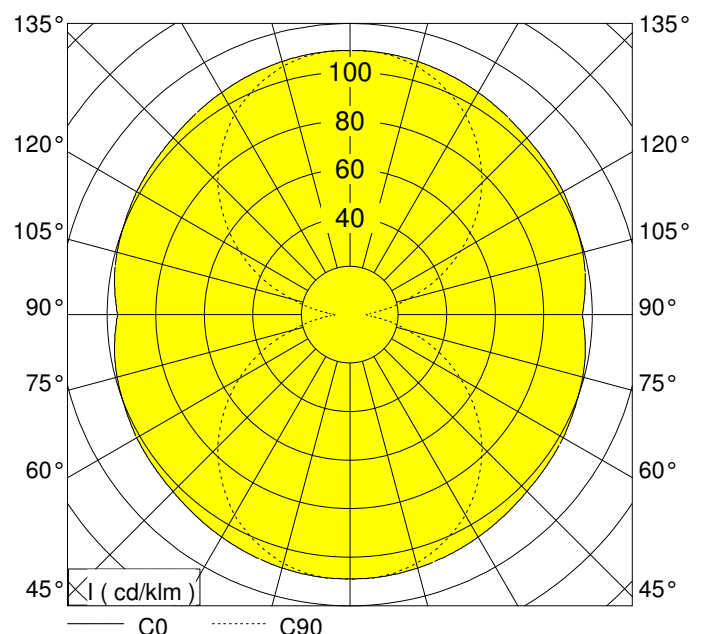
**performance**

light output ratio : 100.0 %  
 DFF : 50.0 %  
 UFF : 50.0 %

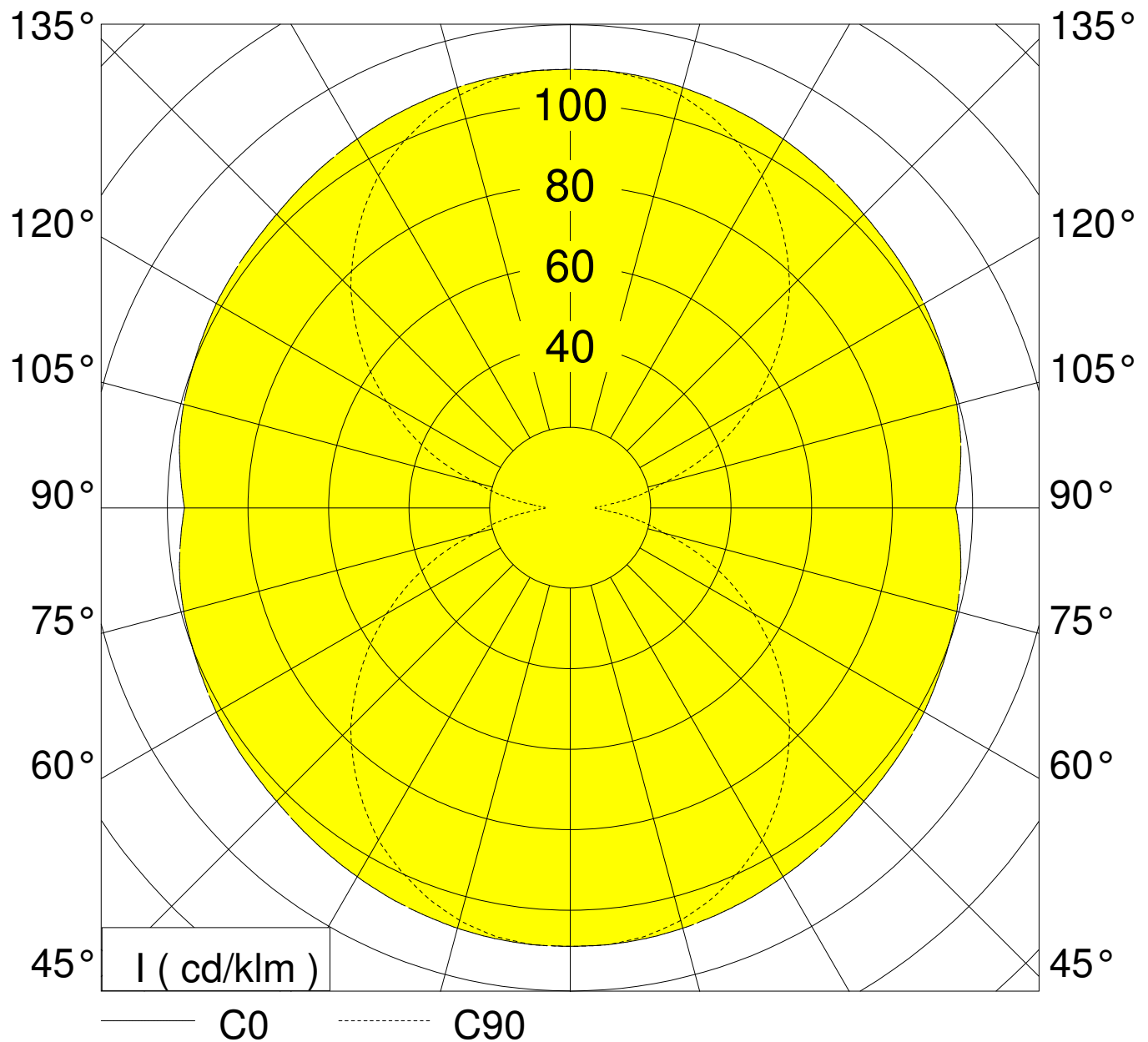
**classification**

LiTG / DIN : C22  
 UTE : 0.50H+0.50T  
 CIE : 32 58 81 50 100  
 BZ : 1 6 6 6 6 6 6 6 6

Ambient Temperature : 25 degC  
 Input Voltage : 240 V  
 Circuit Watts : 24.6 W  
 Amps (running) : 0.106A  
 V.A. : 25.36VA  
 Power Factor : 0.97  
 CCT : 4175K (measured); 4200K (declared)  
 CRI (Ra) : 93  
 S/P Ratio : 1.9  
 Luminaire Lumens : 2245 LLm  
 Output Current DC : 900mA  
 Output Voltage DC : 23.5V  
 Output Power : 21.15W  
 Luminaire Lm/circ.Watt : 91.3 LLm/circ.Watt  
 Driver Efficiency : 86%  
 Driver Details : HELVAR LL1X30-E-CV24o



Measurements made are in absolute units. The luminaire is treated as if it was a lamp as it is not possible to measure each LED separately - hence an LOR of 100%  
 The Light output ratio in real terms would be less than 100%. If it was possible to compare real LED lumens with the total output from the luminaire we could obtain an actual LOR  
 This also means that the total lumens emitted from the LED's would be greater than the Luminaire Lumens measured. In reality the LED lumens would approximate to this value divided by the actual Light Output.



	C 0.0	C 15.0	C 30.0	C 45.0	C 60.0	C 75.0	C 90.0
0.0°	108.80	108.80	108.80	108.80	108.80	108.80	108.80
5.0°	108.80	108.70	108.60	108.60	108.60	108.70	108.80
10.0°	108.50	108.30	108.20	108.00	107.70	107.80	107.90
15.0°	108.00	107.60	107.30	106.60	106.00	106.00	106.00
20.0°	107.30	106.50	105.80	104.80	103.70	103.40	103.10
25.0°	106.60	105.40	104.10	102.30	100.50	100.00	99.40
30.0°	105.70	104.10	102.40	99.70	97.00	96.10	95.20
35.0°	104.80	102.70	100.60	96.80	93.00	91.30	89.60
40.0°	103.90	101.00	98.20	93.10	88.10	85.80	83.50
45.0°	103.00	99.40	95.90	89.50	83.20	80.20	77.00
50.0°	102.40	98.20	93.90	85.80	77.70	73.50	69.30
55.0°	101.90	96.90	92.00	82.20	72.40	66.80	61.20
60.0°	101.40	95.80	90.30	78.40	66.30	59.50	52.60
65.0°	100.60	94.60	88.60	74.80	60.90	52.30	43.80
70.0°	99.90	93.40	86.80	71.40	55.80	45.20	34.40
75.0°	99.30	92.20	85.20	68.40	51.50	37.80	24.10
80.0°	98.40	90.80	83.20	65.30	47.40	32.10	16.70
85.0°	97.10	89.40	81.60	62.90	44.20	26.80	9.40
90.0°	95.70	87.90	80.20	61.00	41.90	23.60	5.40
95.0°	97.10	89.40	81.60	62.90	44.20	26.80	9.40
100.0°	98.40	90.80	83.20	65.30	47.40	32.10	16.70
105.0°	99.30	92.20	85.20	68.40	51.50	37.80	24.10
110.0°	99.90	93.40	86.80	71.40	55.80	45.20	34.40
115.0°	100.60	94.60	88.60	74.80	60.90	52.30	43.80
120.0°	101.40	95.80	90.30	78.40	66.30	59.50	52.60
125.0°	101.90	96.90	92.00	82.20	72.40	66.80	61.20
130.0°	102.40	98.20	93.90	85.80	77.70	73.50	69.30
135.0°	103.00	99.40	95.90	89.50	83.20	80.20	77.00
140.0°	103.90	101.00	98.20	93.10	88.10	85.80	83.50
145.0°	104.80	102.70	100.60	96.80	93.00	91.30	89.60
150.0°	105.70	104.10	102.40	99.70	97.00	96.10	95.20
155.0°	106.60	105.40	104.10	102.30	100.50	100.00	99.40
160.0°	107.30	106.50	105.80	104.80	103.70	103.40	103.10
165.0°	108.00	107.60	107.30	106.60	106.00	106.00	106.00
170.0°	108.50	108.30	108.20	108.00	107.70	107.80	107.90
175.0°	108.80	108.70	108.60	108.60	108.60	108.70	108.80
180.0°	108.80	108.80	108.80	108.80	108.80	108.80	108.80
	cd / klm						

glare rating according to UGR											
p -ceiling		70	70	50	50	30	70	70	50	50	30
p -walls		50	30	50	30	30	50	30	50	30	30
p -workplane		20	20	20	20	20	20	20	20	20	20
room dimensions X                      Y		viewed crosswise					viewed endwise				
2H	2H	16.0	17.0	16.8	17.9	19.0	15.1	16.1	15.9	17.0	18.1
	3H	19.1	20.3	20.2	21.5	23.2	17.4	18.6	18.5	19.8	21.6
	4H	20.4	21.6	21.6	22.8	24.8	18.2	19.3	19.3	20.6	22.5
	6H	21.8	22.8	23.0	24.2	26.3	18.8	19.8	20.0	21.2	23.3
	8H	22.5	23.5	23.7	24.9	27.1	19.1	20.1	20.3	21.5	23.7
	12H	23.2	24.2	24.5	25.6	27.9	19.3	20.4	20.6	21.8	24.0
4H	2H	17.2	18.3	18.4	19.6	21.5	16.5	17.6	17.7	18.9	20.9
	3H	20.1	21.1	21.3	22.5	24.8	18.6	19.6	19.8	21.0	23.3
	4H	21.7	22.7	23.0	24.2	26.6	19.6	20.6	20.9	22.1	24.6
	6H	23.0	23.9	24.4	25.3	27.7	20.2	21.1	21.6	22.5	24.9
	8H	23.8	24.6	25.2	26.1	28.7	20.6	21.4	22.0	22.9	25.5
	12H	24.7	25.4	26.2	27.1	30.0	21.0	21.7	22.5	23.4	26.4
8H	4H	21.9	22.6	23.3	24.2	26.7	20.1	20.9	21.5	22.5	25.0
	6H	23.9	24.6	25.4	26.3	29.5	21.4	22.2	23.0	23.9	27.1
	8H	24.9	25.6	26.5	27.4	30.9	22.0	22.7	23.7	24.5	28.0
	12H	25.7	26.3	27.4	28.1	31.5	22.4	23.0	24.1	24.8	28.2
12H	4H	22.0	22.7	23.5	24.4	27.4	20.4	21.2	22.0	22.8	25.8
	6H	24.1	24.7	25.7	26.5	30.0	21.9	22.5	23.5	24.3	27.8
	8H	25.0	25.6	26.6	27.3	30.8	22.4	23.0	24.0	24.8	28.2
variation of observer position											
S =	1.0H	+0.1/                      -0.1				+0.1/                      -0.1					
	1.5H	+0.2/                      -0.2				+0.1/                      -0.2					
	2.0H	+0.2/                      -0.2				+0.2/                      -0.3					
standard-table		BK11					BK08				
correction for luminaire		9.0					5.2				
correct glare indices for a total flux of 2245lm											

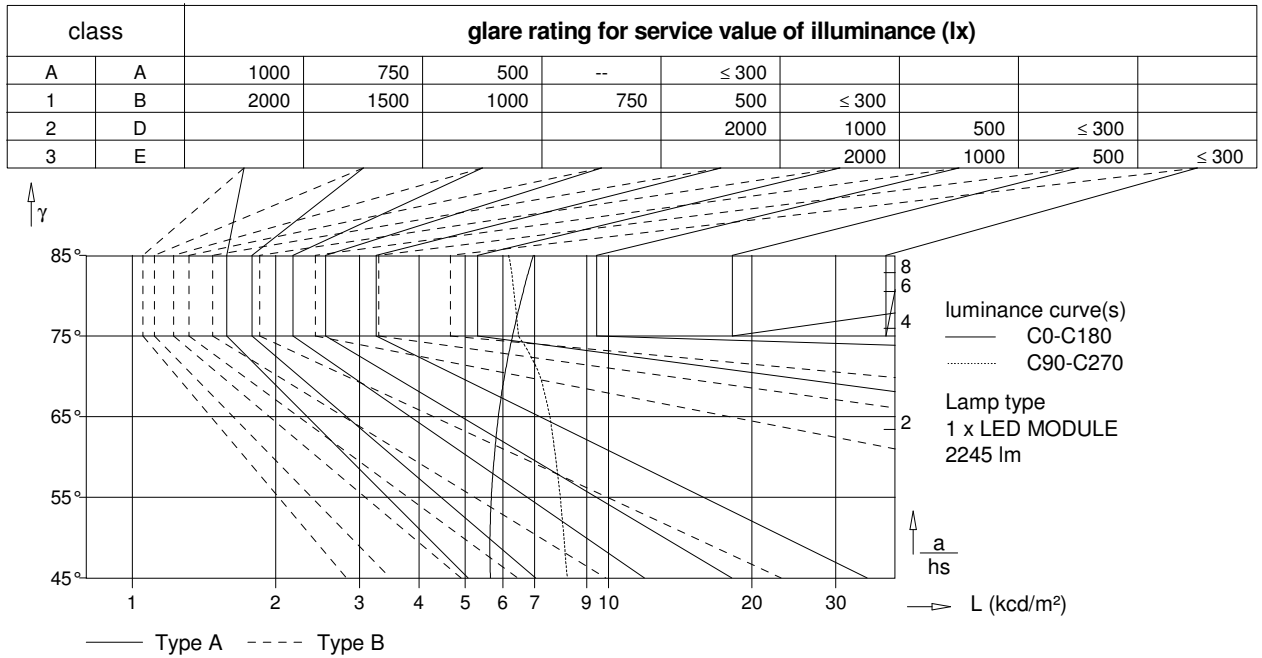


Table of intensities

gamma	C 0	C 90	C 180	C 270
45°	5647.9	8189.9	5647.9	8189.9
50°	5636.5	8061.8	5636.5	8061.8
55°	5673.8	7922.5	5673.8	7922.5
60°	5756.3	7741.2	5756.3	7741.2
65°	5870.4	7534.7	5870.4	7534.7
70°	6044.3	7185.9	6044.3	7185.9
75°	6287.4	6470.2	6287.4	6470.2
80°	6586.9	6340.0	6586.9	6340.0
85°	6950.5	6170.9	6950.5	6170.9

all values in cd/m<sup>2</sup>

<b>utilization factors / TM5</b>											
reflection			room index								
C	W	F	0.75	1.0	1.25	1.5	2.0	2.5	3.0	4.0	5.0
70	50	20	N/A	50	56	61	67	72	75	80	83
70	30	20	N/A	42	49	53	61	66	70	75	78
70	10	20	N/A	37	43	48	55	61	65	71	75
50	50	20	N/A	42	47	51	56	60	63	67	69
50	30	20	N/A	36	41	46	51	56	59	63	66
50	10	20	N/A	32	37	41	47	52	55	60	63
30	50	20	N/A	35	39	42	47	50	52	55	57
30	30	20	N/A	30	35	38	43	46	49	52	55
30	10	20	N/A	27	31	35	40	43	46	50	53
0	0	0	N/A	19	22	24	28	30	32	35	37
BZ-class			1	6	6	6	6	6	6	6	6
SHRnom : 1.75						SHRmax : 1.856					

