BOX JUSTIFICATION for GRE-81-13

Informal document GRE-81-16 (81st GRE, 15–18 April 2019, agenda item 4)
Road illumination distance in present Reg. 48
Road illumination distance proposed in ECE/TRANS/WP.29/ GRE/2019/3

- MOUNTING HEIGHT
  - 1.2
  - 1.0
  - 0.8
  - 0.5

- AIMING
  - 0.5
  - 1.0
  - 1.5
  - 2.0
  - 2.5
  - 3.0

- >250m (restricted by intensity to 75...150 m)

- 28m
Detection distance for different kind of headlamps (20m – 100 m)

J. Kobbert, K. Kosmas, T. Khanh
PEDESTRIAN FATALITIES IN RELATION TO MONTH AND DAY HOUR

Pedestrian deaths
FARS, 1987-2003

Month
Hour

Fatal Ped Crashes in US

Instytut Transportu Samochodowego
Motor Transport Institute

M. J. Flannagan
UMTRI
DARKNESS HAS VERY DIFFERENT EFFECTS BY CRASH TYPE

For fatal crashes, darkness increases risk by factors of:

- Two-vehicle  1.33
- Road departure  0.99
- Pedestrian  4.14
- Animal  4.60
ACCIDENTS WITH PEDESTRIAN WITHIN ONE HOUR BEFORE AND AFTER SUNSET OUTSIDE BUILT-UP AREAS

NEARLY THE SAME CLOCK HOURS (16:00-17:30 DEPENDING ON GEOGRAPHIC CO-ORDINATES)

7 DAYS BEFORE AND AFTER CHANGING TIME FROM SUMMER TO WINTER

8% ACCIDENTS „BEFORE”
92% ACCIDENTS „AFTER”

FOR PEDESTRIAN ACCIDENTS IN DARK RISK INCREASED BY FACTOR OF 12
NO RESPONSE FROM MANUFACTURERS SIDE FOR QUESTION REGARDING REQUEST FOR 1,6% AIMING RANGE (VGL-10-06)

(STATIC) AUTOMATIC LEVELLING DEVICES FOR MANY USED SYSTEMS CAN CONTROL LEVELLING BETTER THAN POSSIBLE TO MEASURE

STILL POSSIBLE TO USE MANUAL LEVELLING DEVICE
Min 50m road illumination distance for normal vehicle

The same glare restriction beyond 25 m

[ Min 30 m for special (restricted speed) vehicle ]
Thank you for attention