

# TEST REPORT

## 1. Applicant

Client Name : FEELUX Co. Ltd.

Address : 235-48 Gwangjeok-ro Gwangjeok-myeon Yangju-si Gyeonggi-do 482-844 Korea

Date of Receipt : 190319

## 2. Purpose of Report :

3. Test Standard / Item : LED / 190319 MRS3 30K-24V-BK-25

4. Test Period : 190319 ~ 190319

## 5. Test Environment

Ambient Temp. : ( 0 +- 3 ) °C

Relative Humidity : ( 0 +- 10 ) % RH

6. Test Result : Refer to the attachment

### Test Item

Name of Product :

FEELUX

Model / Rating :

Model : FEELUX

Rating :

|              |                |                          |
|--------------|----------------|--------------------------|
| Confirmation | Test by<br>CGR | Technical manager<br>CGR |
|--------------|----------------|--------------------------|

\*\*\*\*\*

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.

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This report is for reference only. It cannot replace the report by standard organization(s).

# TEST RESULT

| Report Number | Sample Name | Sample Number | Test Standard |
|---------------|-------------|---------------|---------------|
| 190319        | FEELUX      |               | LED           |

| Test Item                    | Unit | Result         | Memo |
|------------------------------|------|----------------|------|
| Beam Distribution Test       | -    | See attachment |      |
| ATHD                         | %    | 0.0            |      |
| CIE 1931 Cxy                 |      | 0.4425, 0.4095 |      |
| Correlated Color Temperature | K    | 2968           |      |
| Ra                           | -    | 83.19          |      |
| Power Factor                 | %    | 1.000          |      |
| Input Voltage                | V    | 23.970         |      |
| Input Current                | A    | 0.105          |      |
| Input Watt                   | W    | 2.52           |      |
| Lamp Flux                    | lm   | 228.7          |      |
| Efficient                    | lm/W | 90.87          |      |
| Illuminance                  | lx   | 1194           | 1 m  |
|                              |      | 298            | 2 m  |
|                              |      | 133            | 3 m  |

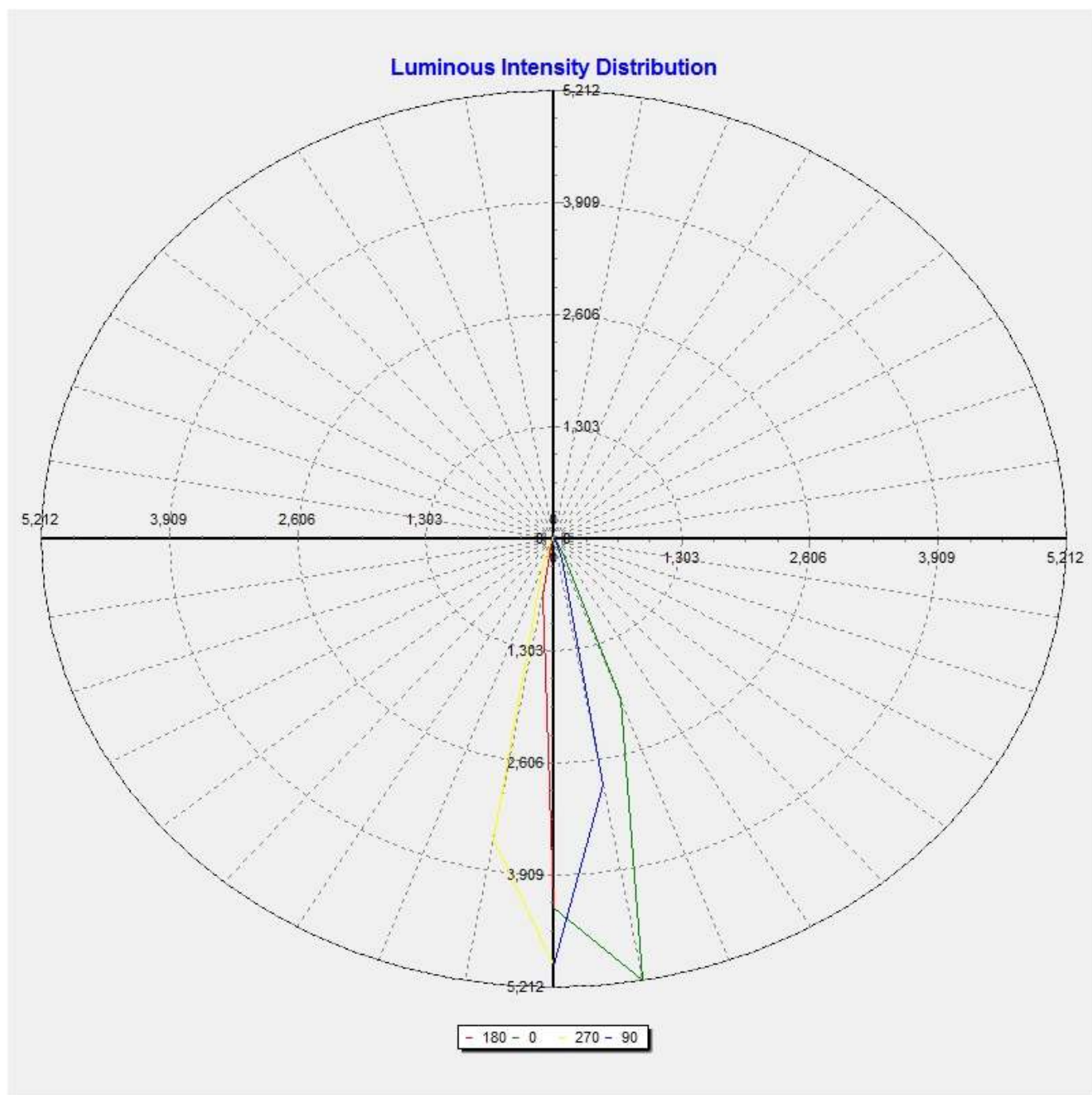
\* This test result is for the sample provided by the client.

Sample photo

Click to load image

Luminaire

|                 |                                                                                    |                                      |
|-----------------|------------------------------------------------------------------------------------|--------------------------------------|
| Lamp            | Report                                                                             | 190319                               |
| No. of lamps    | 1 Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190319 MRS3 30K-24V-BK-25.jdt |                                      |
| Lamp flux (lm)  | 229 Operator                                                                       | Current (A) 0.105 CGR                |
| Total flux (lm) | 229 Date                                                                           | Power Factor 1 2019-03-19 오후 5:25:46 |

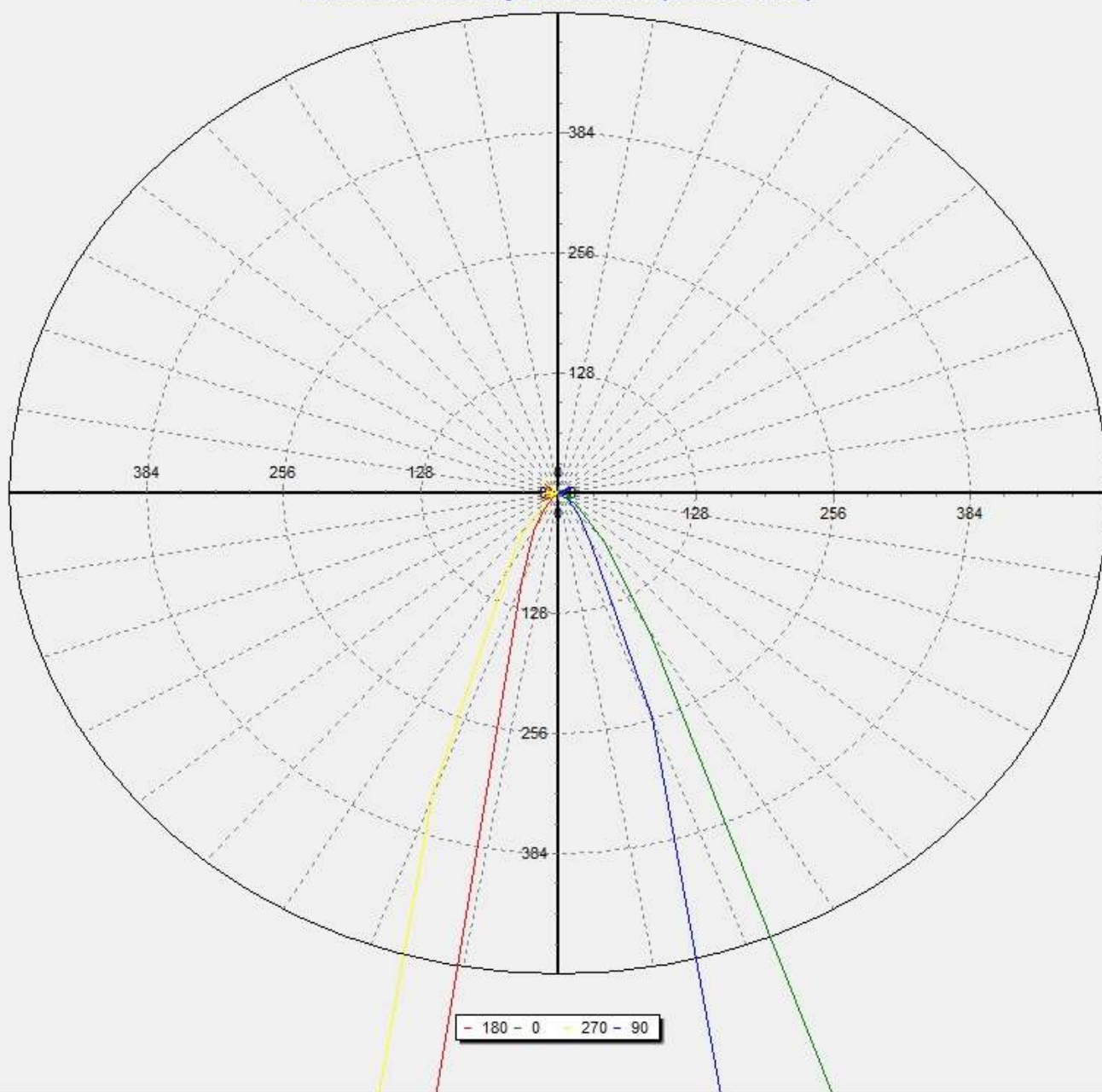


All luminous intensity values are in Cd/KLm unit.

Luminaire

|                 |                                                                                    |                                      |
|-----------------|------------------------------------------------------------------------------------|--------------------------------------|
| Lamp            | Report                                                                             | 190319                               |
| No. of lamps    | 1 Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190319 MRS3 30K-24V-BK-25.jdt |                                      |
| Lamp flux (lm)  | 229 Operator                                                                       | Current (A) 0.105 CGR                |
| Total flux (lm) | 229 Date                                                                           | Power Factor 1 2019-03-19 오후 5:25:46 |

**Luminous Intensity Distribution (Lowest 10%)**



All luminous intensity values are in Cd/Klm unit.

## Luminaire

|                 |                                                                                    |              |       |                       |        |
|-----------------|------------------------------------------------------------------------------------|--------------|-------|-----------------------|--------|
| Lamp            | Report                                                                             |              |       |                       | 190319 |
| No. of lamps    | 1 Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190319 MRS3 30K-24V-BK-25.jdt |              |       |                       |        |
| Lamp flux (lm)  | 229 Operator                                                                       | Current (A)  | 0.105 | CGR                   |        |
| Total flux (lm) | 229 Date                                                                           | Power Factor | 1     | 2019-03-19 오후 5:25:46 |        |

## Luminous Intensity Data

| GWC | 0       | 30      | 60      | 90      | 120     | 150     | 180    | 210     | 240     | 270     | 300     |
|-----|---------|---------|---------|---------|---------|---------|--------|---------|---------|---------|---------|
| 0   | 982.12  | 1102.67 | 1126.20 | 1137.20 | 1130.12 | 1132.23 | 982.12 | 1102.67 | 1126.20 | 1137.20 | 1130.12 |
| 10  | 1193.73 | 956.34  | 790.33  | 665.78  | 598.61  | 498.51  | 152.06 | 453.61  | 564.64  | 812.11  | 888.04  |
| 20  | 452.77  | 125.51  | 73.61   | 58.27   | 52.73   | 44.26   | 22.96  | 42.30   | 49.02   | 78.23   | 92.80   |
| 30  | 38.65   | 22.33   | 15.68   | 14.00   | 17.43   | 17.22   | 10.92  | 16.03   | 17.29   | 21.77   | 21.49   |
| 40  | 15.68   | 10.28   | 10.71   | 6.22    | 7.69    | 6.29    | 4.61   | 5.03    | 8.18    | 11.90   | 10.21   |
| 50  | 5.24    | 3.98    | 1.60    | 2.37    | 3.28    | 1.18    | 1.18   | 5.38    | 2.86    | 3.07    | 2.23    |
| 60  | 2.23    | 1.81    | 3.98    | 1.18    | 6.01    | 3.42    | 3.91   | 2.86    | 3.35    | 1.39    | 3.91    |
| 70  | 3.21    | 3.70    | 2.51    | 1.32    | 0.83    | 0.62    | -0.85  | 0.97    | 2.79    | 2.44    | 3.21    |
| 80  | 1.32    | 0.62    | 0.83    | -1.34   | -0.29   | 1.39    | -0.36  | 0.97    | 0.97    | -0.78   | 1.81    |
| 90  | 0.48    | -1.48   | 0.55    | -1.34   | 1.25    | -1.62   | 3.63   | 2.30    | 0.20    | 3.28    | 2.30    |
| 100 | -0.71   | 2.44    | 2.02    | -0.43   | 3.14    | 1.46    | 1.32   | 3.35    | 1.67    | 2.30    | 0.83    |
| 110 | 1.88    | -1.97   | 2.09    | 0.97    | 1.46    | 1.74    | 1.60   | 3.00    | 0.76    | -0.15   | 0.76    |
| 120 | 0.13    | 1.74    | 1.60    | 2.72    | 1.46    | 1.88    | 2.30   | 1.04    | -0.92   | 1.18    | -2.46   |
| 130 | 0.06    | 2.09    | 3.07    | 0.76    | 1.39    | 0.62    | 3.56   | 2.44    | 2.37    | 3.63    | -0.99   |

## Luminaire

|                 |        |                                                                                  |              |                       |
|-----------------|--------|----------------------------------------------------------------------------------|--------------|-----------------------|
| Lamp            | Report |                                                                                  |              | 190319                |
| No. of lamps    | 1      | Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190319 MRS3 30K-24V-BK-25.jdt |              |                       |
| Lamp flux (lm)  | 229    | Operator                                                                         | Current (A)  | 0.105                 |
|                 |        |                                                                                  |              | CGR                   |
| Total flux (lm) | 229    | Date                                                                             | Power Factor | 1                     |
|                 |        |                                                                                  |              | 2019-03-19 오후 5:25:46 |

**Luminous Intensity Data (Continued)**

| GWC | 330     | 360     |
|-----|---------|---------|
| 0   | 1132.23 | 982.12  |
| 10  | 918.86  | 1193.73 |
| 20  | 91.61   | 452.77  |
| 30  | 23.03   | 38.65   |
| 40  | 9.09    | 15.68   |
| 50  | 3.00    | 5.24    |
| 60  | 2.09    | 2.23    |
| 70  | 2.16    | 3.21    |
| 80  | 4.33    | 1.32    |
| 90  | 1.25    | 0.48    |
| 100 | 2.65    | -0.71   |
| 110 | 1.81    | 1.88    |
| 120 | 1.32    | 0.13    |
| 130 | 1.60    | 0.06    |

# Luminaire

|                 |                                                                                    |                                      |
|-----------------|------------------------------------------------------------------------------------|--------------------------------------|
| Lamp            | Report                                                                             | 190319                               |
| No. of lamps    | 1 Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190319 MRS3 30K-24V-BK-25.jdt |                                      |
| Lamp flux (lm)  | 229 Operator                                                                       | Current (A) 0.105 CGR                |
| Total flux (lm) | 229 Date                                                                           | Power Factor 1 2019-03-19 오후 5:25:46 |

## Luminous Flux Table

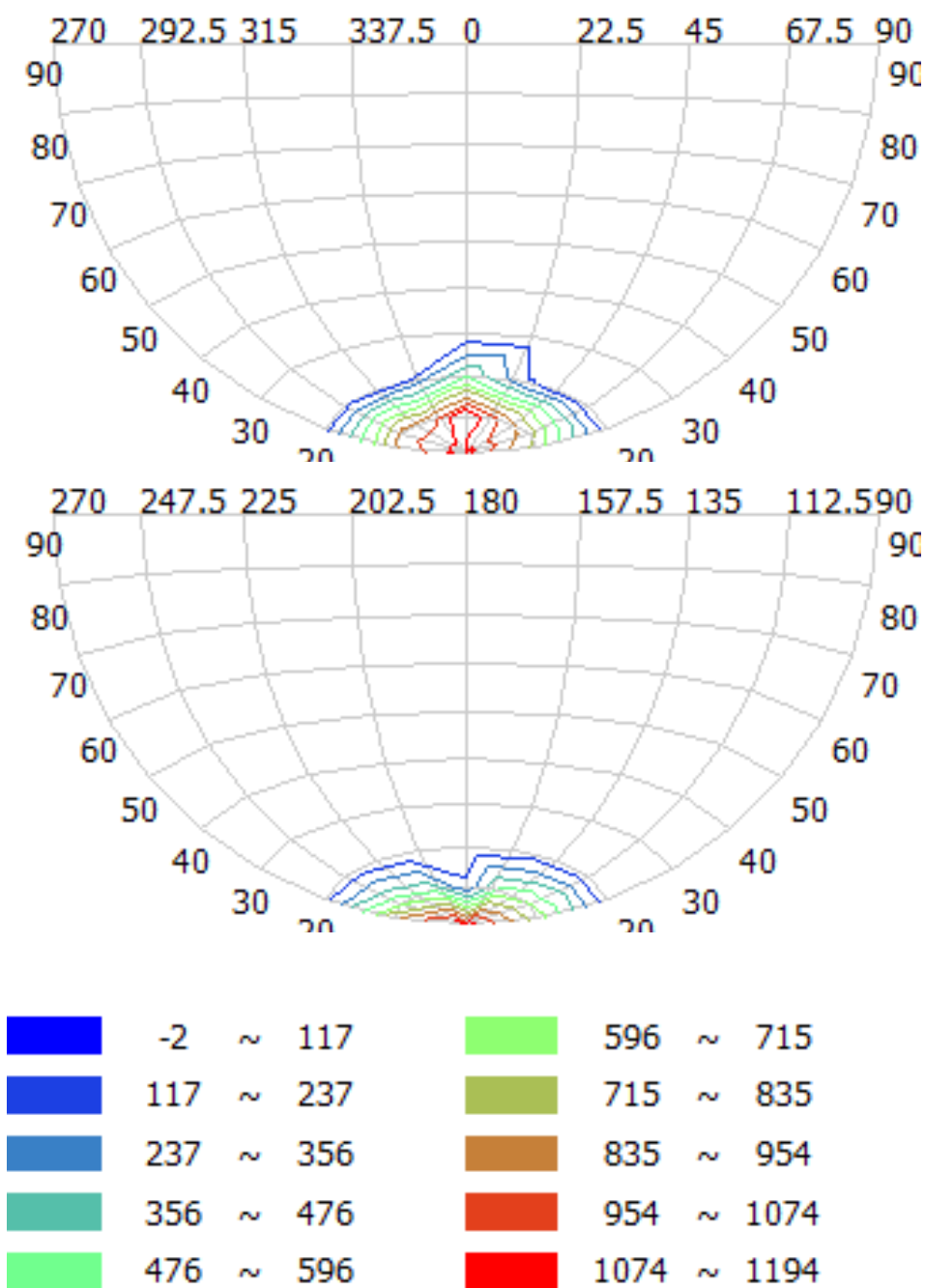
Total Lamp Lumens: 229  
 Luminaire Efficiency (lm/W):228.69  
 CIE Classification: Direct

| Elevation | Lumens | Cumulative | Lamp % | Luminaire % |
|-----------|--------|------------|--------|-------------|
| 0         | 26.34  | 26.34      | 11.52  | 11.52       |
| 10        | 134.60 | 160.94     | 70.37  | 70.37       |
| 20        | 36.96  | 197.90     | 86.53  | 86.54       |
| 30        | 10.76  | 208.66     | 91.24  | 91.24       |
| 40        | 6.21   | 214.88     | 93.96  | 93.96       |
| 50        | 2.47   | 217.35     | 95.04  | 95.04       |
| 60        | 2.86   | 220.21     | 96.29  | 96.29       |
| 70        | 1.96   | 222.17     | 97.15  | 97.15       |
| 80        | 0.85   | 223.02     | 97.52  | 97.52       |
| 90        | 0.98   | 224.00     | 97.95  | 97.95       |
| 100       | 1.80   | 225.80     | 98.73  | 98.74       |
| 110       | 1.20   | 227.00     | 99.26  | 99.26       |
| 120       | 0.95   | 227.95     | 99.67  | 99.67       |
| 130       | 0.75   | 228.69     | 100.00 | 100.00      |

Luminaire

|                 |                                                                                    |                                      |
|-----------------|------------------------------------------------------------------------------------|--------------------------------------|
| Lamp            | Report                                                                             | 190319                               |
| No. of lamps    | 1 Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190319 MRS3 30K-24V-BK-25.jdt |                                      |
| Lamp flux (lm)  | 229 Operator                                                                       | Current (A) 0.105 CGR                |
| Total flux (lm) | 229 Date                                                                           | Power Factor 1 2019-03-19 오후 5:25:46 |

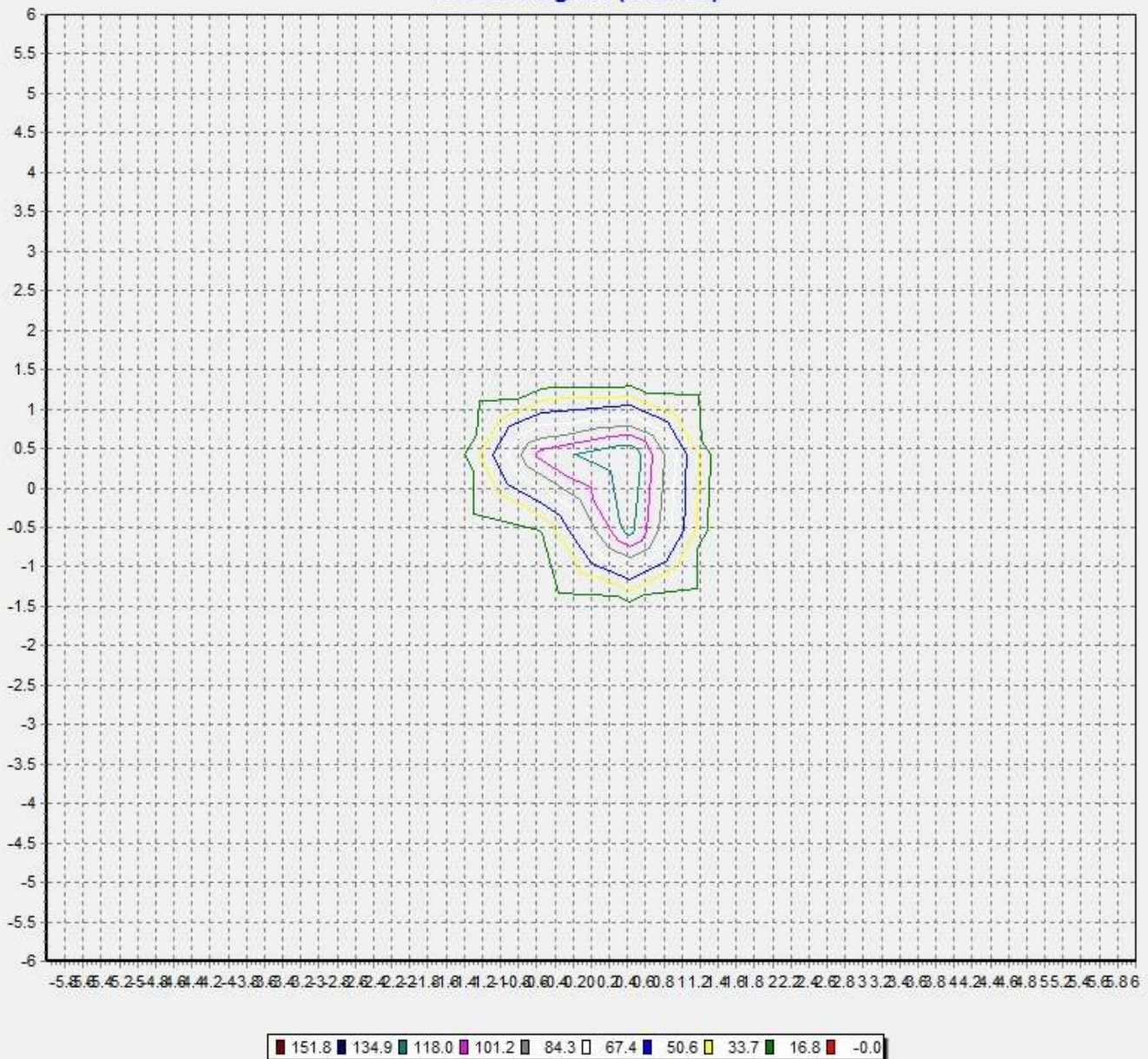
### IsoCandela (Type C)



Luminaire

|                 |                                                                                    |                                      |
|-----------------|------------------------------------------------------------------------------------|--------------------------------------|
| Lamp            | Report                                                                             | 190319                               |
| No. of lamps    | 1 Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190319 MRS3 30K-24V-BK-25.jdt |                                      |
| Lamp flux (lm)  | 229 Operator                                                                       | Current (A) 0.105 CGR                |
| Total flux (lm) | 229 Date                                                                           | Power Factor 1 2019-03-19 오후 5:25:46 |

IsoLux Diagram (Ground)



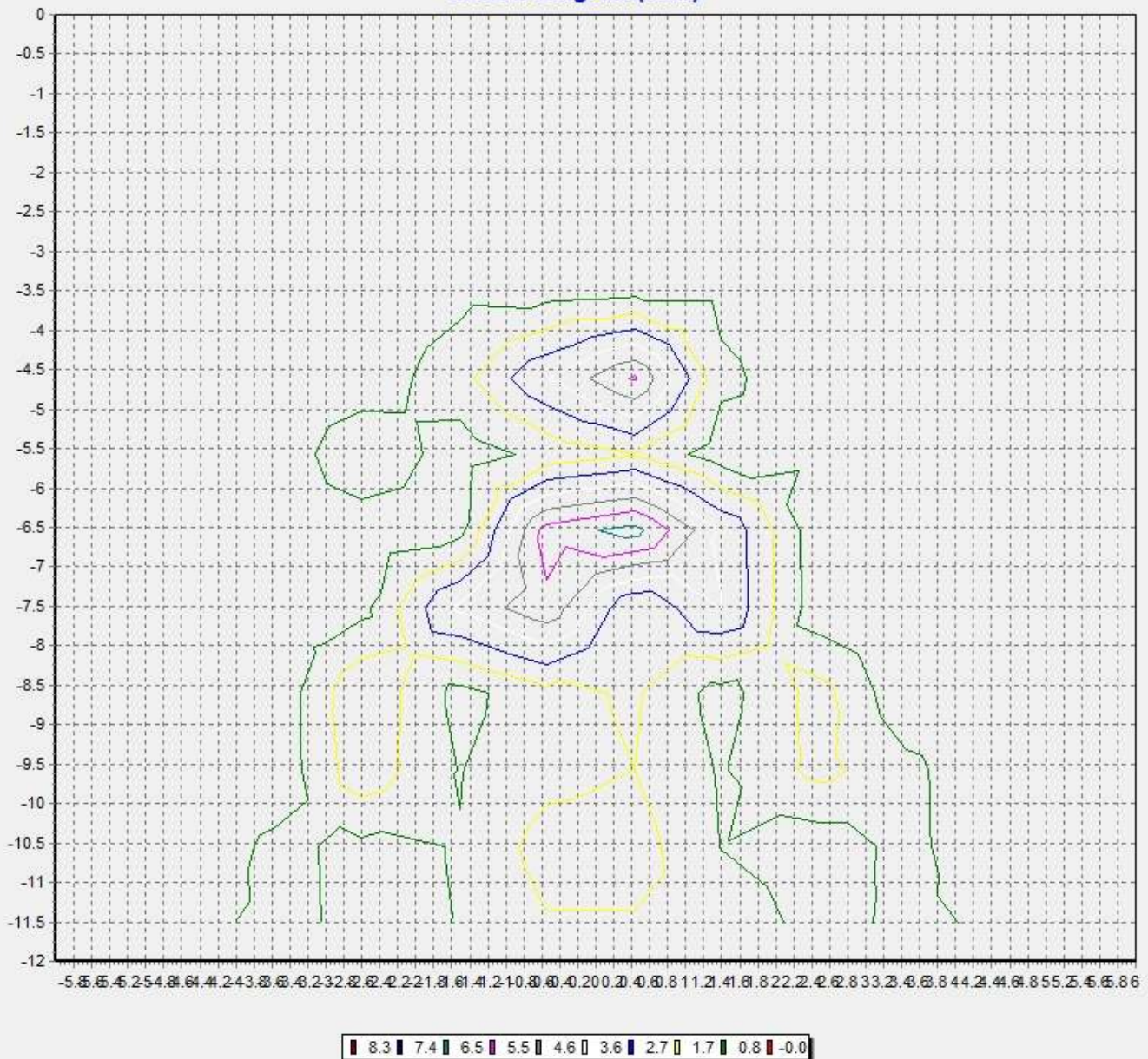
Pole Height (m): 2.7

Area Width (m): 12

# Luminaire

|                 |                                                                                    |                                      |
|-----------------|------------------------------------------------------------------------------------|--------------------------------------|
| Lamp            | Report                                                                             | 190319                               |
| No. of lamps    | 1 Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190319 MRS3 30K-24V-BK-25.jdt |                                      |
| Lamp flux (lm)  | 229 Operator                                                                       | Current (A) 0.105 CGR                |
| Total flux (lm) | 229 Date                                                                           | Power Factor 1 2019-03-19 오후 5:25:46 |

IsoLux Diagram (Wall)



Pole Height (m): 2.7 Wall Distance (m): 2.7  
Aiming Plane: 0 Wall Height (m): 12

## Luminaire

|                 |     |              |       |          |                                                                         |
|-----------------|-----|--------------|-------|----------|-------------------------------------------------------------------------|
| Lamp            |     |              |       | Report   | 190319                                                                  |
| No. of lamps    | 1   | Voltage (V)  | 23.97 | Filename | C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190319 MRS3 30K-24V-BK-25.jdt |
| Lamp flux (lm)  | 229 | Current (A)  | 0.105 | Operator | CGR                                                                     |
| Total flux (lm) | 229 | Power Factor | 1     | Date     | 2019-03-19 오후 5:25:46                                                   |

## Illuminance Levels (Ground)

|       |       |       |       |       |       |       |        |        |      |      |      |      |      |
|-------|-------|-------|-------|-------|-------|-------|--------|--------|------|------|------|------|------|
| 6.00  | 0.01  | 0.01  | 0.01  | 0.01  | 0.02  | 0.02  | 0.01   | 0.02   | 0.03 | 0.02 | 0.02 | 0.02 | 0.01 |
| 5.00  | 0.02  | 0.01  | 0.01  | 0.01  | 0.04  | 0.03  | 0.03   | 0.03   | 0.04 | 0.03 | 0.02 | 0.02 | 0.01 |
| 4.00  | 0.00  | 0.01  | 0.03  | 0.04  | 0.10  | 0.06  | 0.04   | 0.05   | 0.04 | 0.03 | 0.04 | 0.02 | 0.02 |
| 3.00  | 0.01  | 0.02  | 0.03  | 0.07  | 0.15  | 0.12  | 0.13   | 0.13   | 0.23 | 0.06 | 0.07 | 0.03 | 0.02 |
| 2.00  | 0.02  | 0.04  | 0.10  | 0.14  | 0.20  | 0.49  | 0.63   | 0.67   | 0.35 | 0.35 | 0.04 | 0.04 | 0.03 |
| 1.00  | 0.01  | 0.02  | 0.06  | 0.10  | 0.49  | 2.39  | 73.09  | 8.72   | 0.71 | 0.18 | 0.06 | 0.05 | 0.02 |
| 0.00  | 0.01  | 0.02  | 0.07  | 0.08  | 0.48  | 16.73 | 134.72 | 132.32 | 1.68 | 0.30 | 0.08 | 0.07 | 0.03 |
| -1.00 | 0.01  | 0.02  | 0.06  | 0.14  | 0.34  | 1.71  | 89.18  | 3.50   | 0.66 | 0.11 | 0.06 | 0.06 | 0.02 |
| -2.00 | 0.01  | 0.05  | 0.06  | 0.11  | 0.17  | 0.36  | 1.09   | 0.68   | 0.26 | 0.21 | 0.07 | 0.03 | 0.02 |
| -3.00 | 0.01  | 0.01  | 0.04  | 0.07  | 0.19  | 0.17  | 0.20   | 0.11   | 0.26 | 0.06 | 0.04 | 0.02 | 0.02 |
| -4.00 | 0.00  | 0.01  | 0.04  | 0.05  | 0.06  | 0.06  | 0.05   | 0.06   | 0.07 | 0.04 | 0.03 | 0.02 | 0.01 |
| -5.00 | 0.02  | 0.00  | 0.02  | 0.03  | 0.05  | 0.04  | 0.04   | 0.04   | 0.03 | 0.02 | 0.02 | 0.02 | 0.01 |
| -6.00 | 0.01  | 0.01  | 0.02  | 0.01  | 0.02  | 0.02  | 0.02   | 0.02   | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 |
| -6.00 | -5.00 | -4.00 | -3.00 | -2.00 | -1.00 | 0.00  | 1.00   | 2.00   | 3.00 | 4.00 | 5.00 | 6.00 |      |

Illum. (Max.): 132

All illuminance level values are in lux.

Illum. (Min.): 0.00

Illum. Avg.: 2.83

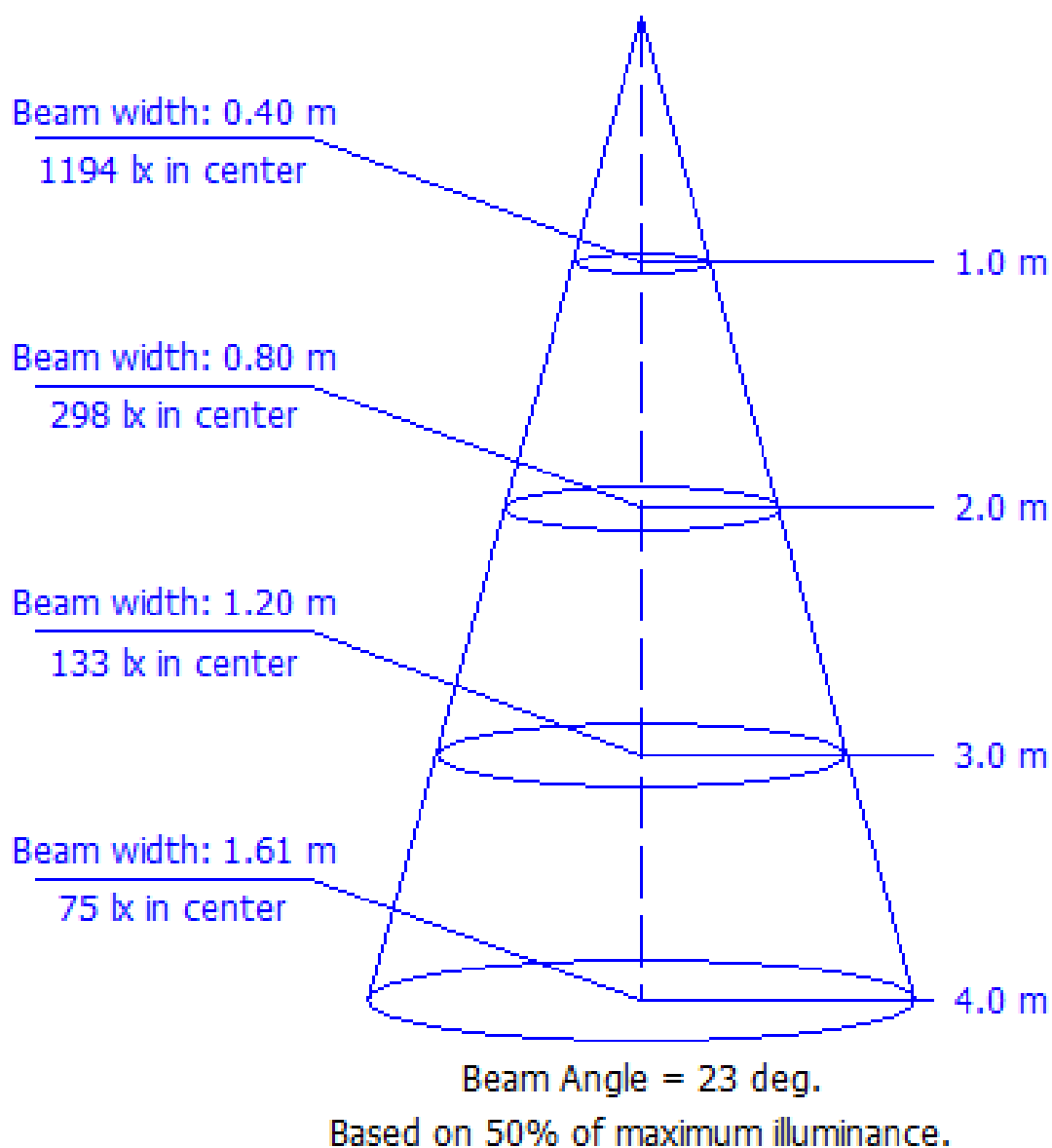
Total Optical Solution Provider


<http://www.jnctech.co.kr>  
J & C Technology Co., Ltd.

Luminaire

|                 |                                                                                    |          |              |       |                       |
|-----------------|------------------------------------------------------------------------------------|----------|--------------|-------|-----------------------|
| Lamp            | Report                                                                             |          |              |       | 190319                |
| No. of lamps    | 1 Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190319 MRS3 30K-24V-BK-25.jdt |          |              |       |                       |
| Lamp flux (lm)  | 229                                                                                | Operator | Current (A)  | 0.105 | CGR                   |
| Total flux (lm) | 229                                                                                | Date     | Power Factor | 1     | 2019-03-19 오후 5:25:46 |

### Illuminance Cone Diagram



## Luminaire

|                 |     |              |       |          |                                                                         |
|-----------------|-----|--------------|-------|----------|-------------------------------------------------------------------------|
| Lamp            |     |              |       | Report   | 190319                                                                  |
| No. of lamps    | 1   | Voltage (V)  | 23.97 | Filename | C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190319 MRS3 30K-24V-BK-25.jdt |
| Lamp flux (lm)  | 229 | Current (A)  | 0.105 | Operator | CGR                                                                     |
| Total flux (lm) | 229 | Power Factor | 1     | Date     | 2019-03-19 오후 5:25:46                                                   |

## Coefficient of Utilization

|                         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Refl. Ceiling (%)       | 80%  | 80%  | 80%  | 70%  | 70%  | 70%  | 50%  | 50%  | 50%  | 30%  | 30%  | 30%  | 10%  | 10%  | 10%  | 0%   |
| Refl. Wall (%)          | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0%   |
| Eff. Floor Cavity Refl. | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  |
| Room CR 0               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Room CR 1               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Room CR 2               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Room CR 3               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Room CR 4               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Room CR 5               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Room CR 6               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Room CR 7               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Room CR 8               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Room CR 9               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Room CR 10              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |