

# 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 : 190315

## 2. Purpose of Report :

3. Test Standard / Item : LED / 190315 DDV12 24V-C90-Warm

4. Test Period : 190315 ~ 190315

## 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.  
This report cannot be reproduced, except in full.  
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 |
|---------------|-------------|---------------|---------------|
| 190315        | FEELUX      |               | LED           |

| Test Item                    | Unit | Result         | Memo |
|------------------------------|------|----------------|------|
| Beam Distribution Test       | -    | See attachment |      |
| ATHD                         | %    | 0.0            |      |
| CIE 1931 Cxy                 |      | 0.4554, 0.4090 |      |
| Correlated Color Temperature | K    | 2767           |      |
| Ra                           | -    | 92.23          |      |
| Power Factor                 | %    | 1.000          |      |
| Input Voltage                | V    | 23.970         |      |
| Input Current                | A    | 0.240          |      |
| Input Watt                   | W    | 5.75           |      |
| Lamp Flux                    | lm   | 424.5          |      |
| Efficient                    | lm/W | 73.79          |      |
| Illuminance                  | lx   | 161            | 1 m  |
|                              |      | 40             | 2 m  |
|                              |      | 18             | 3 m  |

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

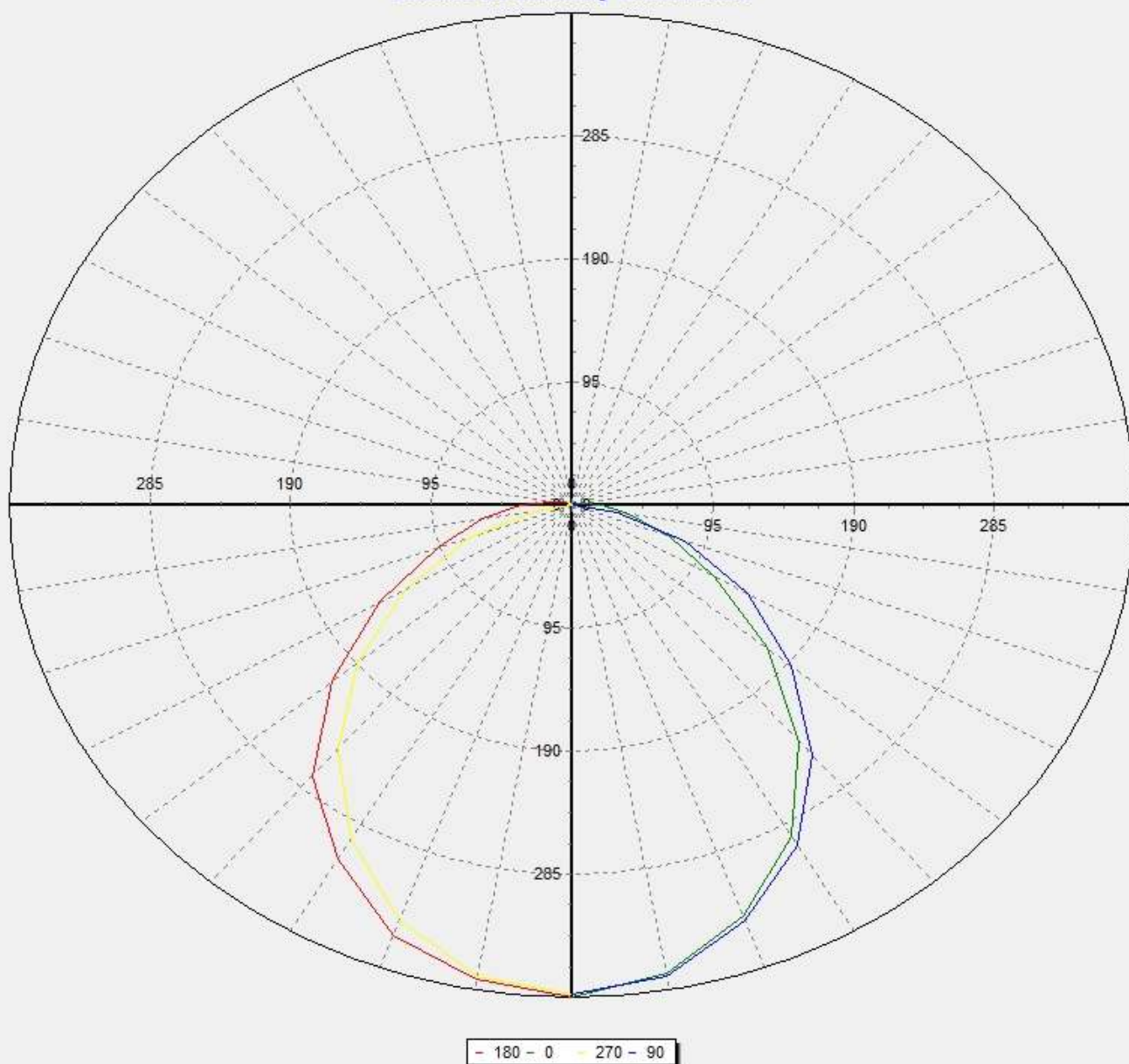
Sample photo

Click to load image

Luminaire

|                 |  |                        |
|-----------------|--|------------------------|
| Lamp            | Report   | 190315                 |
| No. of lamps    | Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190315 DDV12 24V-C90-Warm.jdt |                        |
| Lamp flux (lm)  | 425  | Operator               |
| Total flux (lm) | 425  | Date                   |
|                 | Current (A)  | 0.24                   |
|                 | Power Factor   | 1                      |
|                 |  | 2019-03-15 오전 11:52:56 |

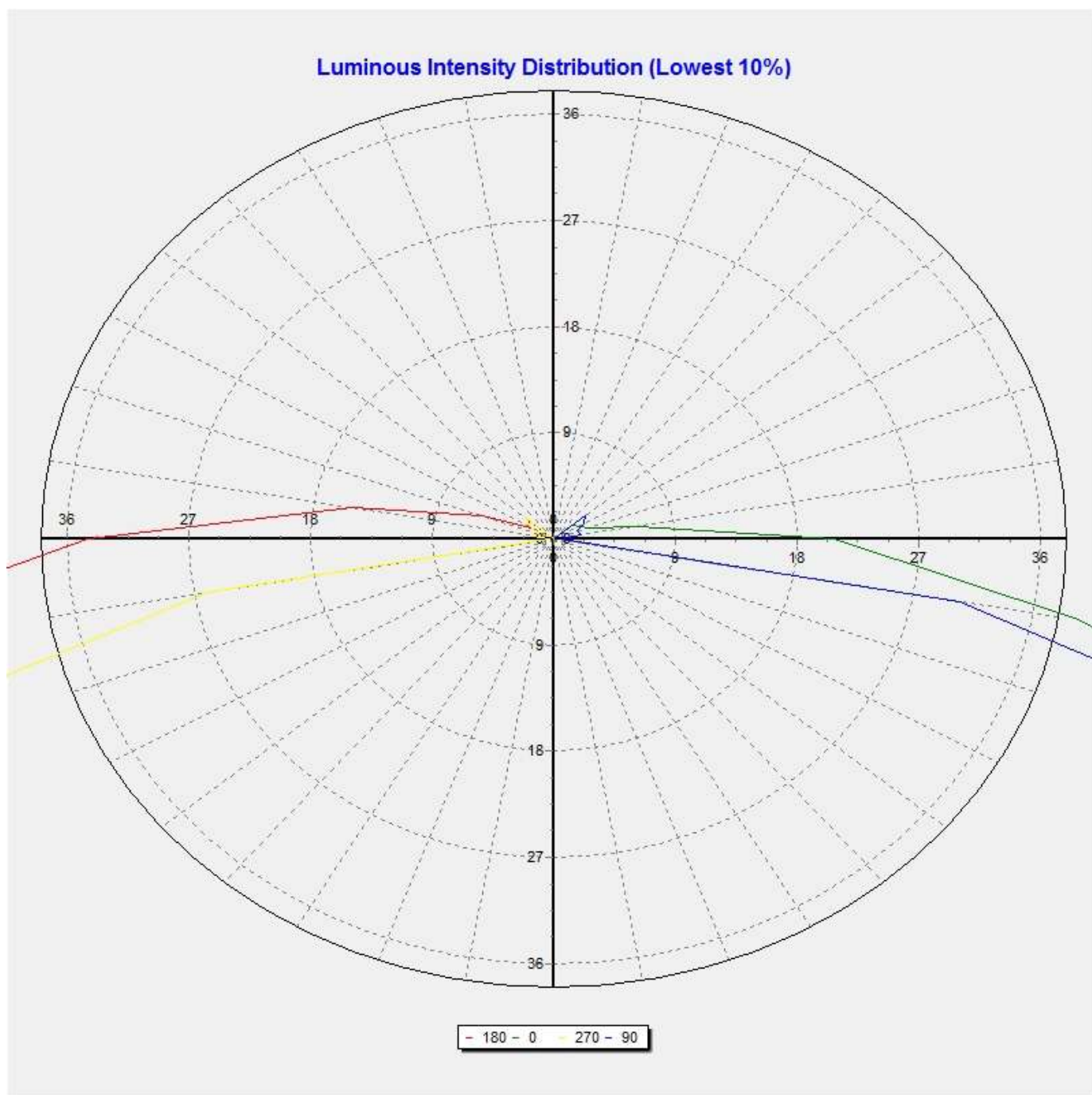
### Luminous Intensity Distribution



All luminous intensity values are in Cd/Klm unit.

Luminaire

|                 |  |                                       |
|-----------------|--|---------------------------------------|
| Lamp            | Report   | 190315                                |
| No. of lamps    | Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190315 DDV12 24V-C90-Warm.jdt |                                       |
| Lamp flux (lm)  | 425 Operator   | Current (A) 0.24 CGR                  |
| Total flux (lm) | 425 Date   | Power Factor 1 2019-03-15 오전 11:52:56 |



All luminous intensity values are in Cd/Klm unit.

## Luminaire

|                 |  |          |                                       |
|-----------------|--|----------|---------------------------------------|
| Lamp            | Report   |          | 190315                                |
| No. of lamps    | Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190315 DDV12 24V-C90-Warm.jdt |          |                                       |
| Lamp flux (lm)  | 425  | Operator | Current (A) 0.24 CGR                  |
| Total flux (lm) | 425  | Date     | Power Factor 1 2019-03-15 오전 11:52:56 |

## Luminous Intensity Data

| GWC | 0      | 30     | 60     | 90     | 120    | 150    | 180    | 210    | 240    | 270    | 300    | 330    | 360    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0   | 161.00 | 159.77 | 160.76 | 160.07 | 160.41 | 160.27 | 161.00 | 159.77 | 160.76 | 160.07 | 160.41 | 160.27 | 161.00 |
| 10  | 155.29 | 155.67 | 156.33 | 156.39 | 157.12 | 159.26 | 157.33 | 157.96 | 155.98 | 156.46 | 154.36 | 154.51 | 155.29 |
| 20  | 143.11 | 142.82 | 144.69 | 144.50 | 148.81 | 150.93 | 149.99 | 150.00 | 146.48 | 144.92 | 142.08 | 140.66 | 143.11 |
| 30  | 125.32 | 125.22 | 126.82 | 128.71 | 132.61 | 135.10 | 134.00 | 133.10 | 129.04 | 126.48 | 123.35 | 123.58 | 125.32 |
| 40  | 101.11 | 103.01 | 105.14 | 107.20 | 111.83 | 115.68 | 115.76 | 112.90 | 108.34 | 104.36 | 101.10 | 100.81 | 101.11 |
| 50  | 72.58  | 75.66  | 80.12  | 81.82  | 87.85  | 92.34  | 89.55  | 89.38  | 84.25  | 79.95  | 75.78  | 72.77  | 72.58  |
| 60  | 46.91  | 48.57  | 54.44  | 57.92  | 63.57  | 67.41  | 63.30  | 64.10  | 60.32  | 54.94  | 51.57  | 46.72  | 46.91  |
| 70  | 29.65  | 30.21  | 31.78  | 34.29  | 39.57  | 42.53  | 40.62  | 40.26  | 36.95  | 31.60  | 28.78  | 29.00  | 29.65  |
| 80  | 16.74  | 16.84  | 15.30  | 12.95  | 20.85  | 25.31  | 25.96  | 24.17  | 18.59  | 11.05  | 12.74  | 15.14  | 16.74  |
| 90  | 8.78   | 7.14   | 4.11   | 0.23   | 8.47   | 14.35  | 14.64  | 12.73  | 6.74   | 0.11   | 3.51   | 7.22   | 8.78   |
| 100 | 2.66   | 2.04   | 0.32   | 0.89   | 1.15   | 6.50   | 6.40   | 5.60   | 0.75   | 0.68   | 0.21   | 1.69   | 2.66   |
| 110 | 1.20   | 0.27   | 1.21   | 0.79   | 0.51   | 1.40   | 2.41   | 1.25   | 0.00   | 0.52   | 1.07   | 1.04   | 1.20   |
| 120 | 0.93   | 1.65   | 0.83   | 1.08   | 1.26   | 0.17   | 0.79   | 0.84   | 1.20   | 0.77   | 0.57   | 1.27   | 0.93   |
| 130 | 0.73   | 0.93   | 1.19   | 1.27   | 1.54   | 0.66   | 1.07   | 0.73   | 0.83   | 1.19   | 0.56   | 1.43   | 0.73   |

# Luminaire

|                 |  |                                       |
|-----------------|--|---------------------------------------|
| Lamp            | Report   | 190315                                |
| No. of lamps    | Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190315 DDV12 24V-C90-Warm.jdt |                                       |
| Lamp flux (lm)  | 425Operator  | Current (A) 0.24 CGR                  |
| Total flux (lm) | 425Date  | Power Factor 1 2019-03-15 오전 11:52:56 |

## Luminous Flux Table

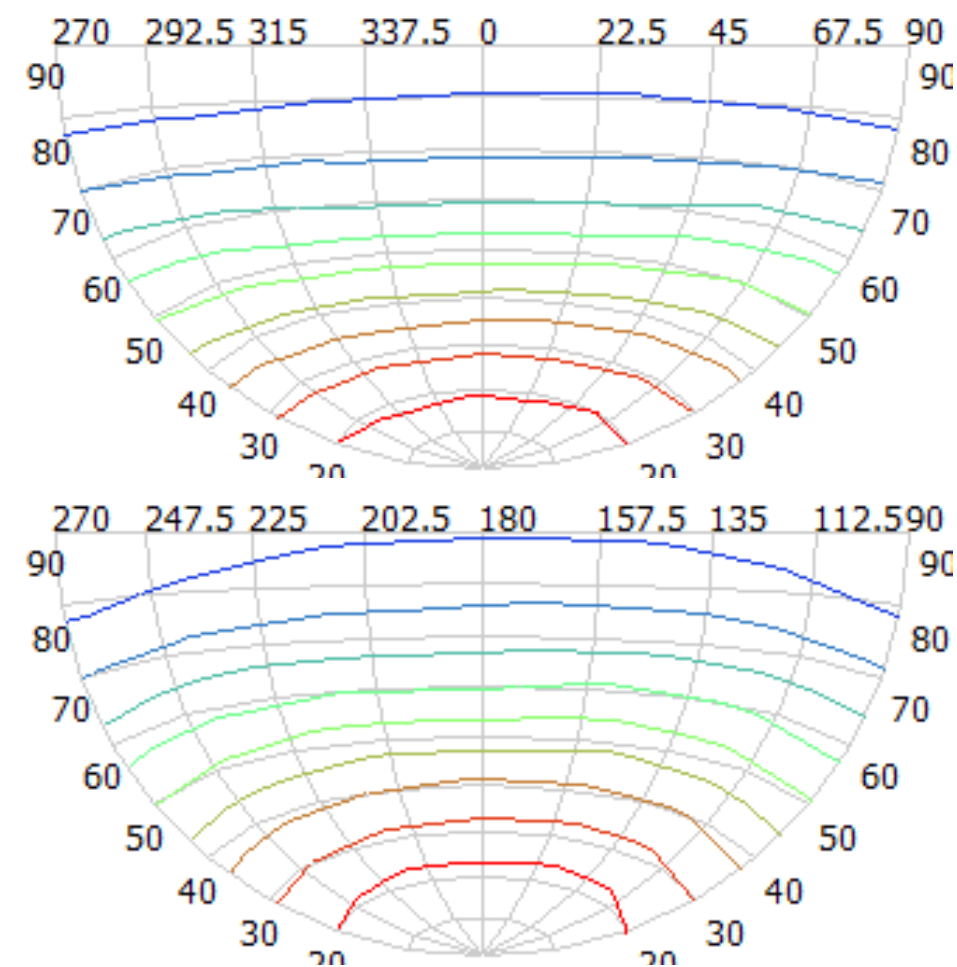
Total Lamp Lumens: 424  
 Luminaire Efficiency (lm/W):424.48  
 CIE Classification: Direct

| Elevation | Lumens | Cumulative | Lamp % | Luminaire % |
|-----------|--------|------------|--------|-------------|
| 0         | 3.83   | 3.83       | 0.90   | 0.90        |
| 10        | 29.74  | 33.58      | 7.91   | 7.91        |
| 20        | 54.60  | 88.17      | 20.77  | 20.77       |
| 30        | 70.43  | 158.60     | 37.36  | 37.36       |
| 40        | 75.52  | 234.12     | 55.15  | 55.16       |
| 50        | 68.66  | 302.79     | 71.33  | 71.33       |
| 60        | 53.73  | 356.52     | 83.98  | 83.99       |
| 70        | 35.61  | 392.13     | 92.37  | 92.38       |
| 80        | 19.38  | 411.51     | 96.94  | 96.94       |
| 90        | 8.03   | 419.54     | 98.83  | 98.84       |
| 100       | 2.60   | 422.14     | 99.44  | 99.45       |
| 110       | 1.00   | 423.14     | 99.68  | 99.69       |
| 120       | 0.90   | 424.04     | 99.89  | 99.90       |
| 130       | 0.44   | 424.48     | 100.00 | 100.00      |

Luminaire

|                 |  |                             |
|-----------------|--|-----------------------------|
| Lamp            | Report   | 190315                      |
| No. of lamps    | Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190315 DDV12 24V-C90-Warm.jdt |                             |
| Lamp flux (lm)  | 425  | Operator CGR                |
| Total flux (lm) | 425  | Date 2019-03-15 오전 11:52:56 |
|                 | Current (A)  | 0.24                        |
|                 | Power Factor   | 1                           |

### IsoCandela (Type C)



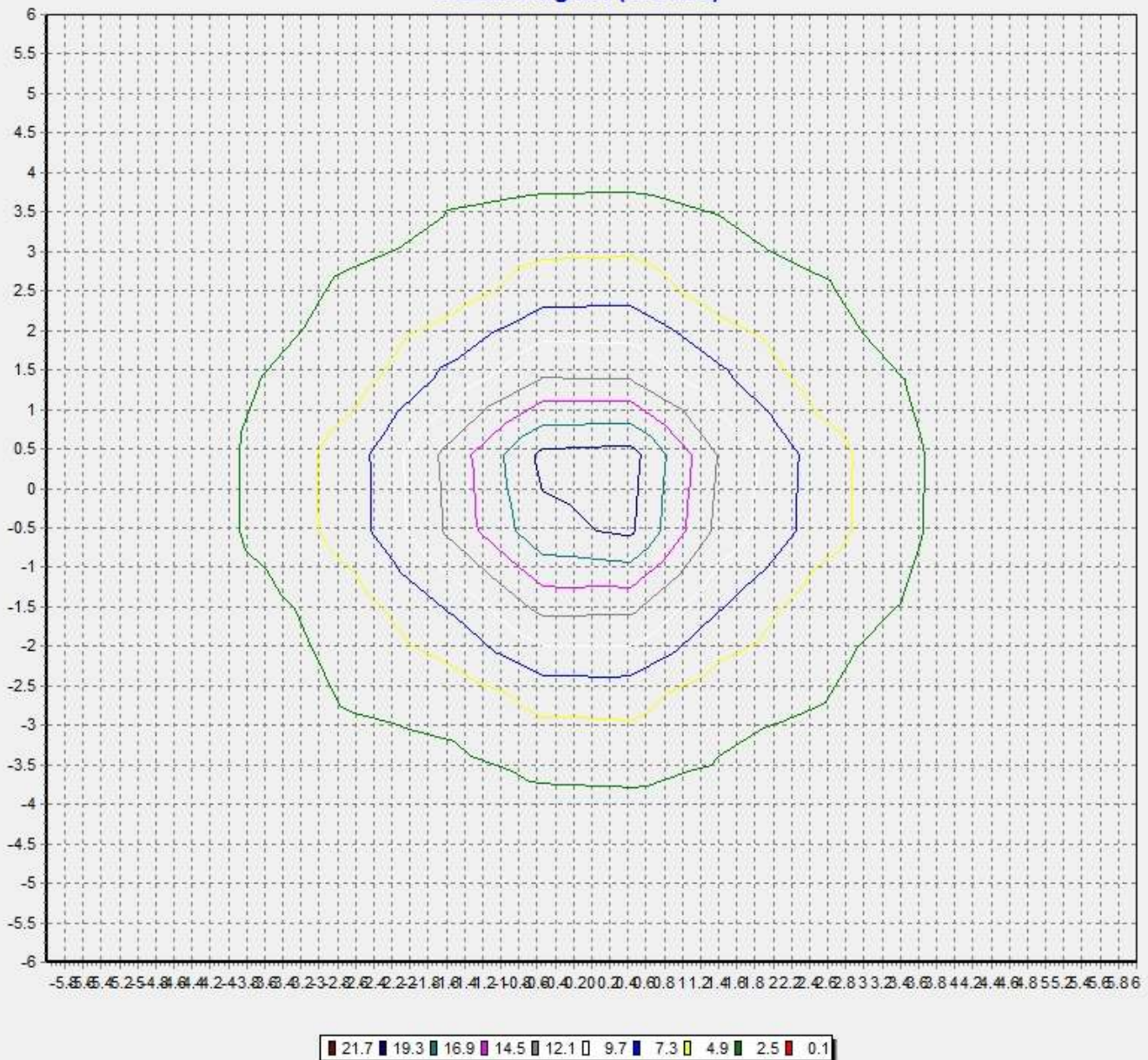
|         |           |
|---------|-----------|
| 0 ~ 16  | 81 ~ 97   |
| 16 ~ 32 | 97 ~ 113  |
| 32 ~ 48 | 113 ~ 129 |
| 48 ~ 64 | 129 ~ 145 |
| 64 ~ 81 | 145 ~ 161 |



Luminaire

|                 |  |                        |
|-----------------|--|------------------------|
| Lamp            | Report   | 190315                 |
| No. of lamps    | Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190315 DDV12 24V-C90-Warm.jdt |                        |
| Lamp flux (lm)  | 425  | Operator               |
| Total flux (lm) | 425  | Date                   |
|                 | Current (A)  | 0.24                   |
|                 | Power Factor   | 1                      |
|                 |  | 2019-03-15 오전 11:52:56 |

IsoLux Diagram (Ground)



Pole Height (m): 2.7

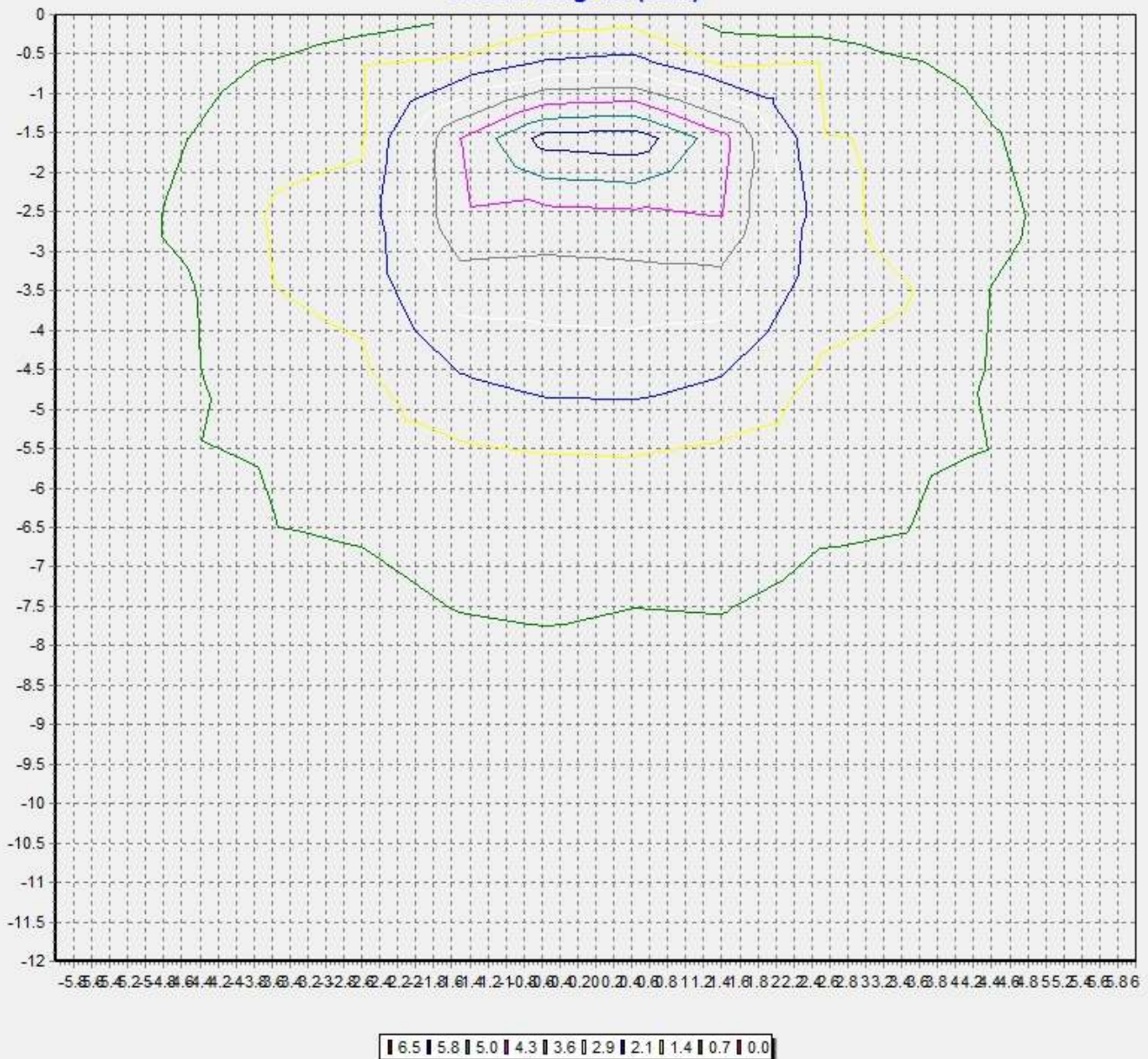
Area Width (m): 12



# Luminaire

|                 |  |                                       |
|-----------------|--|---------------------------------------|
| Lamp            | Report   | 190315                                |
| No. of lamps    | Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190315 DDV12 24V-C90-Warm.jdt |                                       |
| Lamp flux (lm)  | 425Operator  | Current (A) 0.24 CGR                  |
| Total flux (lm) | 425Date  | Power Factor 1 2019-03-15 오전 11:52:56 |

IsoLux Diagram (Wall)



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

## Luminaire

## Lamp

## Report

190315

No. of lamps 1 Voltage (V) 23.97

Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190315 DDV12 24V-C90-Warm.jdt

Lamp flux (lm) 425 Current (A) 0.24

Operator CGR

Total flux (lm) 425 Power Factor 1

Date 2019-03-15 오전 11:52:56

## Illuminance Levels (Ground)

|       |       |       |       |       |       |       |       |       |      |      |      |      |      |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| 6.00  | 0.21  | 0.28  | 0.21  | 0.31  | 0.37  | 0.38  | 0.42  | 0.39  | 0.31 | 0.24 | 0.19 | 0.24 | 0.17 |
| 5.00  | 0.31  | 0.24  | 0.34  | 0.47  | 0.96  | 1.06  | 1.15  | 1.07  | 0.84 | 0.43 | 0.30 | 0.20 | 0.22 |
| 4.00  | 0.26  | 0.39  | 0.81  | 1.17  | 1.24  | 1.44  | 1.62  | 1.45  | 0.99 | 1.10 | 0.68 | 0.28 | 0.18 |
| 3.00  | 0.32  | 0.55  | 1.28  | 1.42  | 2.95  | 3.26  | 3.57  | 2.95  | 2.86 | 1.15 | 1.02 | 0.39 | 0.24 |
| 2.00  | 0.40  | 1.00  | 1.26  | 3.18  | 4.24  | 7.02  | 8.16  | 6.52  | 3.81 | 2.73 | 0.97 | 0.81 | 0.30 |
| 1.00  | 0.46  | 1.20  | 1.66  | 3.41  | 7.08  | 12.82 | 17.65 | 12.34 | 6.49 | 2.85 | 1.24 | 0.95 | 0.33 |
| 0.00  | 0.48  | 1.25  | 1.77  | 3.89  | 8.69  | 17.77 | 22.09 | 17.52 | 7.79 | 3.21 | 1.37 | 1.01 | 0.35 |
| -1.00 | 0.47  | 1.21  | 1.66  | 3.40  | 7.14  | 13.10 | 17.66 | 12.33 | 6.39 | 2.85 | 1.24 | 0.95 | 0.33 |
| -2.00 | 0.40  | 1.00  | 1.27  | 3.17  | 4.45  | 7.09  | 7.97  | 6.41  | 3.93 | 2.72 | 1.02 | 0.82 | 0.29 |
| -3.00 | 0.32  | 0.53  | 1.25  | 1.49  | 2.99  | 3.33  | 3.48  | 2.95  | 2.84 | 1.26 | 1.02 | 0.38 | 0.24 |
| -4.00 | 0.25  | 0.38  | 0.85  | 1.20  | 1.26  | 1.47  | 1.56  | 1.48  | 1.04 | 1.10 | 0.73 | 0.28 | 0.18 |
| -5.00 | 0.29  | 0.26  | 0.36  | 0.49  | 0.98  | 1.07  | 1.12  | 1.09  | 0.85 | 0.44 | 0.30 | 0.20 | 0.22 |
| -6.00 | 0.22  | 0.28  | 0.23  | 0.32  | 0.38  | 0.39  | 0.39  | 0.41  | 0.31 | 0.24 | 0.19 | 0.25 | 0.18 |
| -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.): 22.1

All illuminance level values are in lux.

Illum. (Min.): 0.17

Illum. Avg.: 2.34

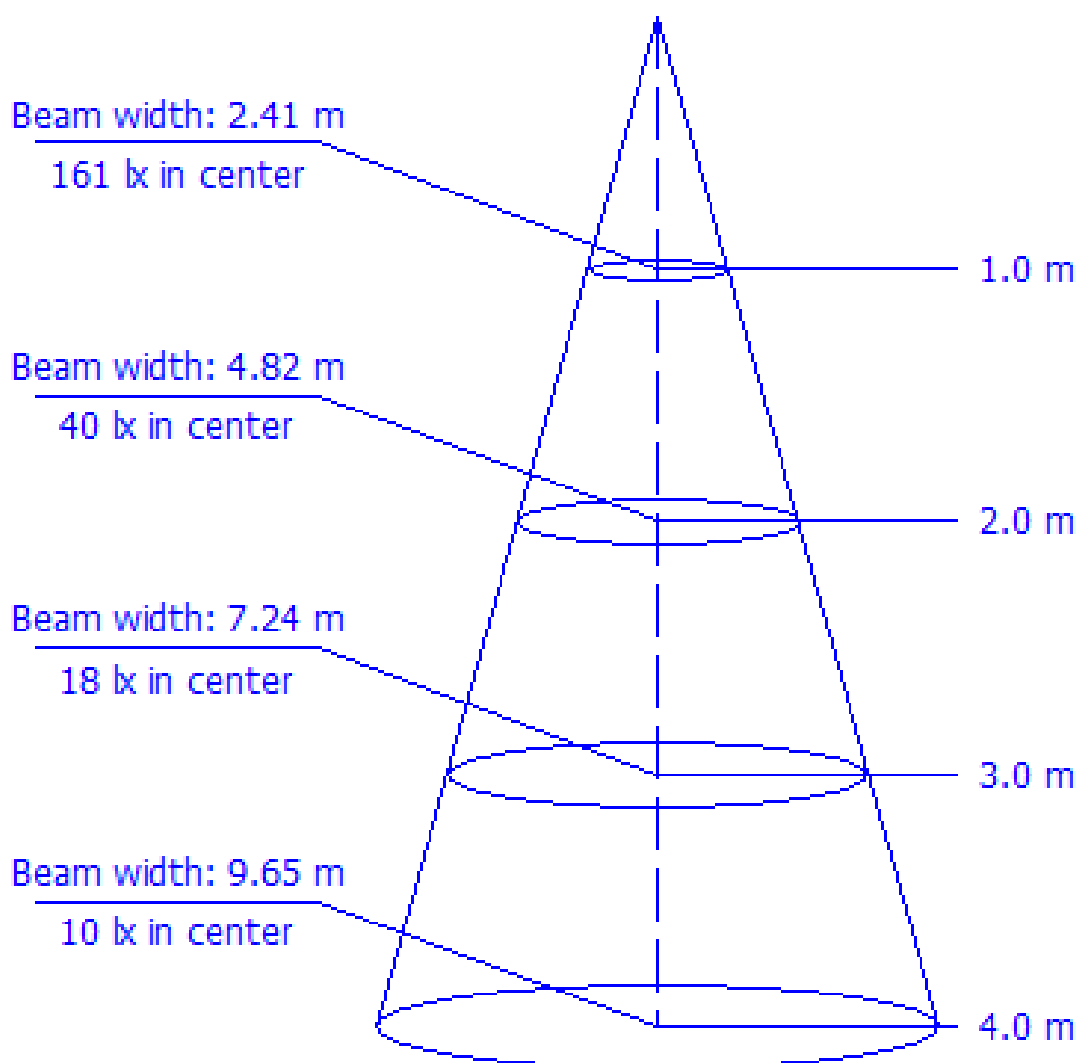
Total Optical Solution Provider


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

Luminaire

|                 |  |                                       |
|-----------------|--|---------------------------------------|
| Lamp            | Report   | 190315                                |
| No. of lamps    | Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190315 DDV12 24V-C90-Warm.jdt |                                       |
| Lamp flux (lm)  | 425 Operator   | Current (A) 0.24 CGR                  |
| Total flux (lm) | 425 Date   | Power Factor 1 2019-03-15 오전 11:52:56 |

### Illuminance Cone Diagram



Beam Angle = 101 deg.

Based on 50% of maximum illuminance.

## Luminaire

## Lamp

## Report

190315

|                 |     |              |       |          |   |
|-----------------|-----|--------------|-------|----------|---|
| No. of lamps    | 1   | Voltage (V)  | 23.97 | Filename | C:\Users\WFEELUX\Desktop\완료 리포트\Data\2019\190315 DDV12 24V-C90-Warm.jdt |
| Lamp flux (lm)  | 425 | Current (A)  | 0.24  | Operator | CGR   |
| Total flux (lm) | 425 | Power Factor | 1     | Date     | 2019-03-15 오전 11:52:56  |

## 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 |