

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 : 2016-01-15

2. Purpose of Report : Sample test

3. Test Standard / Item : LED / 160115 HDV 일반 diffuser

4. Test Period : 2016-01-15 ~ 2016-01-15

5. Test Environment

Ambient Temp. : (18.19 +- 3) °C

Relative Humidity : (14.18 +- 10) % RH

6. Test Result : Refer to the attachment

Test Item

Name of Product :

Model / Rating :

Model :

Rating :

Confirmation	Test by Junhyun, Choi	Technical manager Soobeom, Park
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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
20160115-0004			LED

Test Item	Unit	Result	Memo
Beam Distribution Test	-	See attachment	
ATHD	%	0.0	
CIE 1931 Cxy		0.4207, 0.3947	
Correlated Color Temperature	K	3232	
Ra	-	83.77	
Power Factor	%	1.000	
Input Voltage	V	23.980	
Input Current	A	0.238	
Input Watt	W	5.7	
Lamp Flux	lm	478.2	
Efficient	lm/W	83.79	
Illuminance	lx	190	1 m
		48	2 m
		21	3 m

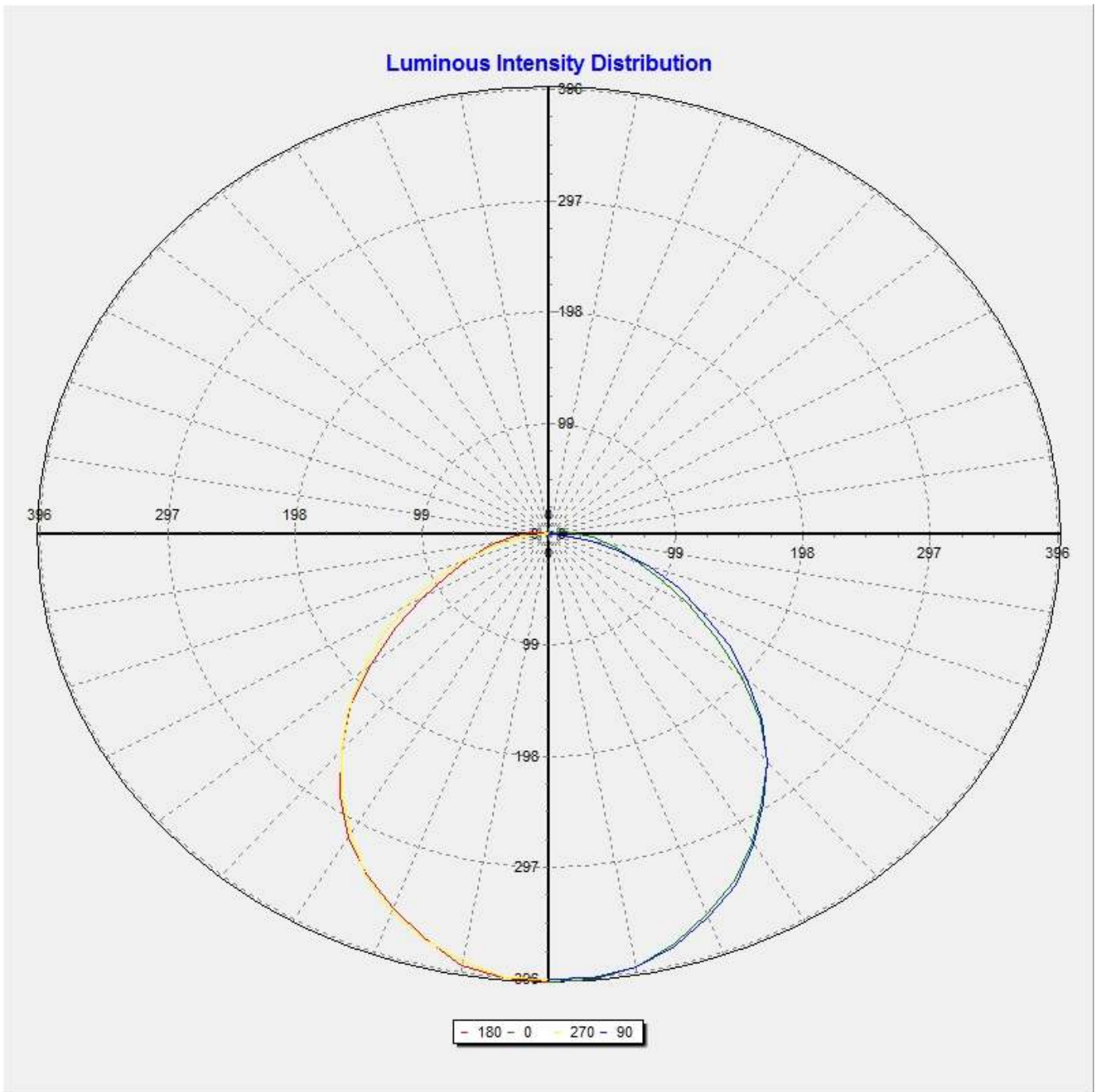
* This test result is for the sample provided by the client.

Sample photo

Click to load image

Luminaire

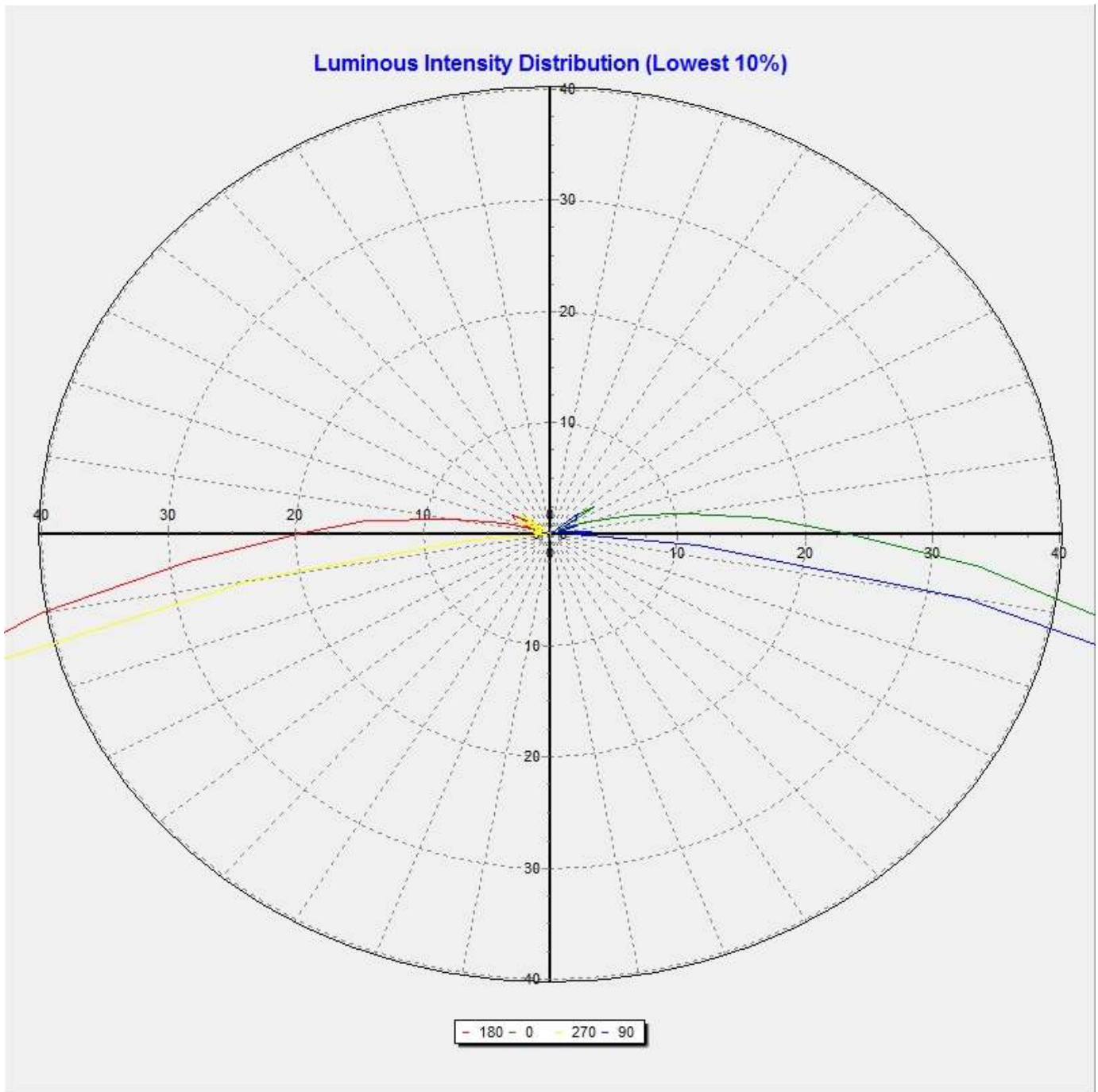
Lamp		Report	20160115-0004		
No. of lamps	1	Filename	C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\160115 HDV 일반 diffuser.jdt		
Lamp flux (lm)	478	Operator	Current (A)	0.238	
Total flux (lm)	478	Date	Power Factor	1	2016-01-15 오후 12:49:14



All luminous intensity values are in Cd/KLm unit.

Luminaire

Lamp		Report	20160115-0004		
No. of lamps	1	Filename	C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\160115 HDV 일반 diffuser.jdt		
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Lamp flux (lm)	478	Operator	Current (A)	0.238
Total flux (lm)	478	Date	Power Factor	1
2016-01-15 오후 12:49:14				

Luminous Intensity Data

GWC	0	10	20	30	40	50	60	70	80	90	100	110	120
0	190.50	190.39	190.35	190.57	190.75	188.50	190.15	189.78	192.11	189.48	191.44	188.80	189.98
5	190.25	190.04	188.81	188.56	189.00	188.97	190.17	189.70	190.48	189.47	188.12	189.41	189.94
10	186.78	186.65	188.67	186.45	186.96	187.01	187.92	186.67	186.71	186.97	186.15	185.26	185.33
15	180.57	180.43	181.36	180.35	181.25	182.37	182.29	180.84	181.17	181.36	180.26	181.66	181.30
20	171.61	172.58	174.94	172.22	173.85	174.51	174.70	173.66	172.49	173.21	174.22	174.55	173.84
25	163.00	163.39	163.26	163.23	163.86	162.28	164.60	165.80	163.80	164.53	163.43	163.98	164.53
30	151.36	150.08	152.59	151.50	151.71	152.98	154.02	151.50	152.56	152.31	153.69	154.09	153.73
35	138.11	140.25	139.32	141.41	139.67	138.42	140.55	140.29	140.35	139.33	141.53	140.59	139.37
40	126.49	125.46	126.22	125.58	126.62	125.60	126.48	126.10	126.66	126.56	126.38	126.16	126.45
45	111.71	110.97	111.03	111.79	112.31	110.88	110.62	111.17	112.05	111.87	111.43	111.67	111.51
50	93.74	94.03	95.78	95.70	97.61	96.20	96.40	96.66	96.83	95.93	96.40	96.11	95.82
55	75.94	76.22	77.72	78.95	82.28	82.67	81.61	81.33	82.22	81.57	82.27	81.64	81.15
60	59.67	60.15	61.98	62.84	65.82	66.58	66.10	67.01	67.67	65.87	66.86	66.96	66.25
65	46.40	47.08	47.96	49.00	50.96	52.26	53.71	53.46	53.61	53.05	52.67	52.50	52.54
70	35.86	36.20	37.03	37.60	38.85	39.56	40.16	39.43	40.17	39.95	38.81	39.64	39.38
75	28.01	27.84	28.46	28.07	28.80	28.21	28.31	27.95	27.10	27.07	27.68	27.32	28.78
80	21.24	21.44	21.75	21.05	21.30	19.98	19.87	17.48	15.93	15.81	16.32	17.48	19.74
85	16.18	15.95	16.19	15.38	14.78	13.64	11.84	9.07	7.67	5.55	7.22	9.87	12.15
90	11.28	11.42	11.56	10.63	9.85	8.60	6.81	5.06	2.09	0.88	2.12	4.17	6.56
95	8.10	7.90	7.67	7.11	6.04	4.63	3.27	1.32	1.01	1.55	0.85	1.34	3.01
100	5.18	5.03	5.32	4.26	3.31	2.36	1.39	0.35	0.35	0.51	0.18	0.86	1.12
105	3.25	2.18	2.07	1.76	1.60	0.01	0.26	1.23	0.68	0.20	0.91	0.49	0.88
110	1.47	1.47	0.90	1.19	0.94	0.86	1.01	0.63	0.80	1.06	1.61	0.88	1.22
115	0.84	0.98	1.06	1.00	0.84	0.74	0.79	1.29	0.96	0.70	0.70	0.88	0.87
120	0.37	1.26	0.95	1.30	1.00	0.88	1.43	1.05	0.90	0.66	1.02	1.03	1.20
125	2.02	1.43	1.17	1.20	1.15	1.09	1.12	1.03	0.76	1.16	0.90	1.40	1.45
130	1.09	1.03	1.08	1.63	1.44	1.72	1.21	2.19	1.02	1.37	1.40	1.97	0.86

Luminaire

Lamp		Report	20160115-0004		
No. of lamps	1	Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\160115 HDV 일반 diffuser.jdt			
Lamp flux (lm)	478	Operator	Current (A)	0.238	
Total flux (lm)	478	Date	Power Factor	1	
2016-01-15 오후 12:49:14					

Luminous Intensity Data (Continued)

GWC	130	140	150	160	170	180	190	200	210	220	230	240	250
0	187.95	189.54	190.13	189.95	189.14	190.50	190.39	190.35	190.57	190.75	188.50	190.15	189.78
5	189.38	190.34	188.10	189.62	188.80	189.55	188.85	188.51	189.23	189.05	187.64	189.04	187.19
10	185.48	186.35	184.74	186.37	184.94	186.29	185.07	185.08	184.27	184.96	184.99	184.40	185.52
15	180.67	181.21	179.90	180.99	181.34	177.81	179.74	177.65	177.24	178.41	176.27	177.74	177.69
20	172.23	172.76	173.14	171.70	171.48	169.65	169.83	169.22	169.43	169.43	172.09	170.39	169.57
25	162.88	163.26	162.83	163.18	161.91	160.27	160.62	159.65	160.43	161.38	158.57	159.25	159.49
30	152.47	151.57	151.15	150.79	152.21	148.95	149.48	147.45	149.39	148.28	147.64	147.00	148.41
35	139.09	139.23	138.34	140.40	138.80	135.83	135.42	134.32	135.61	134.38	134.20	134.19	135.13
40	125.61	126.98	125.03	124.47	124.57	119.78	120.13	121.43	120.90	120.39	120.35	119.92	119.96
45	110.59	110.76	109.19	109.83	108.57	104.56	104.01	103.99	104.78	106.91	105.87	104.99	105.86
50	95.88	94.96	94.45	93.73	92.18	86.15	87.83	87.39	89.95	89.02	90.47	89.72	89.97
55	80.39	80.51	77.67	76.46	74.65	69.15	69.69	70.45	73.85	73.66	74.94	75.64	75.30
60	65.72	64.38	62.26	60.70	58.69	54.28	54.00	55.36	57.23	58.36	60.74	59.43	61.48
65	51.08	49.71	48.28	47.69	46.15	41.96	43.71	42.22	44.85	46.16	47.14	47.02	47.80
70	38.72	38.88	37.63	36.40	35.55	32.27	32.94	32.83	34.46	33.72	34.96	34.84	34.91
75	29.37	28.86	28.25	28.30	27.62	25.13	25.19	24.95	25.85	25.79	25.16	24.75	23.67
80	20.56	21.21	20.77	20.65	21.43	19.48	19.28	18.45	19.19	17.81	17.35	15.95	13.48
85	13.65	14.76	15.15	15.15	15.62	13.62	13.82	14.46	13.21	13.03	10.66	9.21	7.52
90	7.49	10.12	10.92	11.41	10.46	9.51	10.22	8.74	8.90	7.51	7.11	4.73	2.40
95	4.56	6.06	7.33	7.30	7.58	6.95	6.32	6.39	6.41	4.81	3.11	2.33	0.28
100	1.84	3.51	3.81	4.35	4.77	3.73	4.30	3.72	3.47	2.25	1.92	0.60	0.54
105	0.75	1.01	1.94	2.16	2.73	1.73	2.35	1.22	1.24	0.32	0.64	0.61	0.31
110	0.94	0.75	0.50	1.16	1.00	0.75	0.55	1.11	0.74	0.40	0.53	0.82	0.44
115	1.20	0.31	1.59	0.89	0.53	1.48	0.52	0.94	1.30	0.75	1.02	1.08	2.06
120	1.78	1.18	1.56	1.06	1.85	1.64	0.51	0.99	1.10	0.55	1.47	0.48	1.37
125	0.85	1.33	1.33	1.00	0.69	1.05	1.47	1.53	1.21	1.04	1.01	1.83	0.79
130	1.12	1.16	1.05	1.74	2.21	1.00	1.44	1.11	1.36	0.99	1.19	1.10	1.65

Luminaire

Lamp	Report				20160115-0004
No. of lamps	1	Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\160115 HDV 일반 diffuser.jdt			
Lamp flux (lm)	478	Operator	Current (A)	0.238	
Total flux (lm)	478	Date	Power Factor	1	2016-01-15 오후 12:49:14

Luminous Intensity Data (Continued)

GWC	260	270	280	290	300	310	320	330	340	350	360
0	192.11	189.48	191.44	188.80	189.98	187.95	189.54	190.13	189.95	189.14	190.50
5	188.82	189.35	188.18	188.90	188.29	186.28	188.09	190.28	188.50	186.75	190.25
10	185.78	184.55	184.18	183.66	183.95	183.83	184.71	184.19	183.18	184.12	186.78
15	178.74	178.57	177.64	178.47	178.30	179.03	177.70	176.86	178.66	178.02	180.57
20	169.47	170.96	169.47	169.94	169.45	169.58	168.91	168.98	170.24	170.01	171.61
25	159.22	161.03	159.34	161.09	159.45	159.76	158.64	159.67	157.96	159.18	163.00
30	146.65	147.33	148.27	147.87	146.20	146.63	147.67	148.30	148.31	147.18	151.36
35	135.14	134.66	134.83	134.35	133.86	134.18	133.41	134.61	134.85	134.85	138.11
40	119.92	120.42	118.42	120.87	120.38	121.52	120.07	120.57	120.13	121.65	126.49
45	105.32	105.96	106.13	105.43	104.96	104.83	105.35	105.93	106.34	105.29	111.71
50	90.20	90.16	91.14	92.48	90.08	90.95	90.38	90.28	88.67	87.73	93.74
55	75.70	75.43	75.43	75.93	75.79	75.99	75.05	73.85	71.12	69.67	75.94
60	60.50	61.70	61.01	61.61	61.72	61.49	59.52	57.73	55.77	55.27	59.67
65	46.78	47.66	46.94	47.93	47.67	48.07	45.98	44.75	42.78	43.09	46.40
70	33.68	34.35	34.45	36.12	35.69	34.57	34.40	33.75	33.83	33.63	35.86
75	23.38	22.48	23.00	24.61	24.66	26.37	25.79	25.56	26.07	25.39	28.01
80	11.77	11.27	12.64	14.66	15.89	17.53	18.94	18.73	19.19	19.76	21.24
85	4.19	2.87	5.12	7.14	9.61	11.76	12.86	13.58	14.03	14.39	16.18
90	0.22	0.24	1.04	3.51	5.17	7.26	8.55	8.85	10.56	9.62	11.28
95	0.66	0.14	0.40	1.23	2.08	3.96	4.67	6.09	6.53	7.40	8.10
100	0.82	0.82	1.07	0.65	0.69	2.06	2.94	3.40	3.97	4.11	5.18
105	1.50	0.38	0.42	0.35	0.74	0.65	0.84	1.56	1.65	2.81	3.25
110	0.20	0.32	0.62	0.70	1.66	0.73	0.98	0.60	1.14	1.15	1.47
115	1.08	1.40	1.63	1.39	0.51	0.85	1.09	1.51	0.75	0.78	0.84
120	0.56	0.43	0.82	0.24	1.23	0.77	0.89	1.09	0.90	1.79	0.37
125	1.52	1.39	1.02	1.28	1.00	0.49	1.39	1.28	1.08	0.66	2.02
130	1.19	0.95	1.34	1.35	0.89	1.58	0.91	1.75	1.13	1.51	1.09

Luminaire

Lamp		Report		20160115-0004
No. of lamps	1	Filename	C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\160115 HDV 일반 diffuser.jdt	
Lamp flux (lm)	478	Operator	Current (A)	0.238
Total flux (lm)	478	Date	Power Factor	1
				2016-01-15 오후 12:49:14

Luminous Flux Table

Total Lamp Lumens: 478
 Luminaire Efficiency (lm/W): 478.24
 CIE Classification: Direct

Elevation	Lumens	Cumulative	Lamp %	Luminaire %
0	1.14	1.14	0.24	0.24
5	9.03	10.16	2.13	2.12
10	17.66	27.82	5.82	5.82
15	25.47	53.29	11.14	11.14
20	32.15	85.45	17.87	17.87
25	37.44	122.89	25.70	25.70
30	41.12	164.01	34.30	34.29
35	43.13	207.14	43.32	43.31
40	43.40	250.54	52.39	52.39
45	41.93	292.47	61.16	61.16
50	38.85	331.32	69.28	69.28
55	34.45	365.77	76.49	76.48
60	29.18	394.95	82.59	82.58
65	23.88	418.83	87.58	87.58
70	18.67	437.50	91.49	91.48
75	14.03	451.53	94.42	94.41
80	9.83	461.36	96.48	96.47
85	6.38	467.74	97.81	97.80
90	3.89	471.63	98.63	98.62
95	2.37	474.00	99.12	99.11
100	1.34	475.35	99.40	99.39
105	0.64	475.99	99.54	99.53
110	0.46	476.44	99.63	99.62
115	0.50	476.94	99.74	99.73
120	0.49	477.43	99.84	99.83
125	0.53	477.96	99.95	99.94
130	0.28	478.24	100.01	100.00

Luminaire

Lamp

Report

20160115-0004

No. of lamps

1

Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\160115 HDV 일반 diffuser.jdt

Lamp flux (lm)

478

Operator

Current (A)

0.238

Total flux (lm)

478

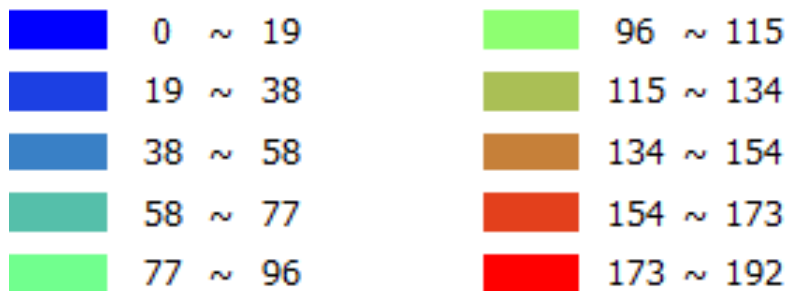
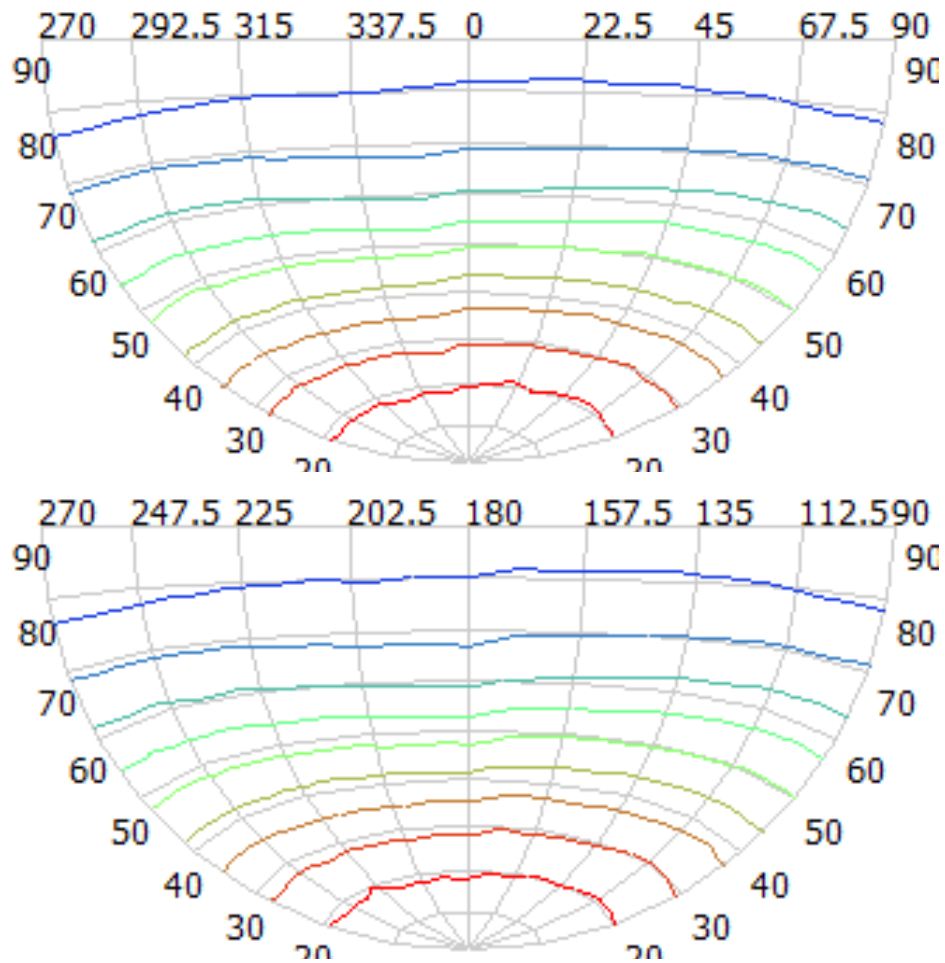
Date

Power Factor

1

2016-01-15 오후 12:49:14

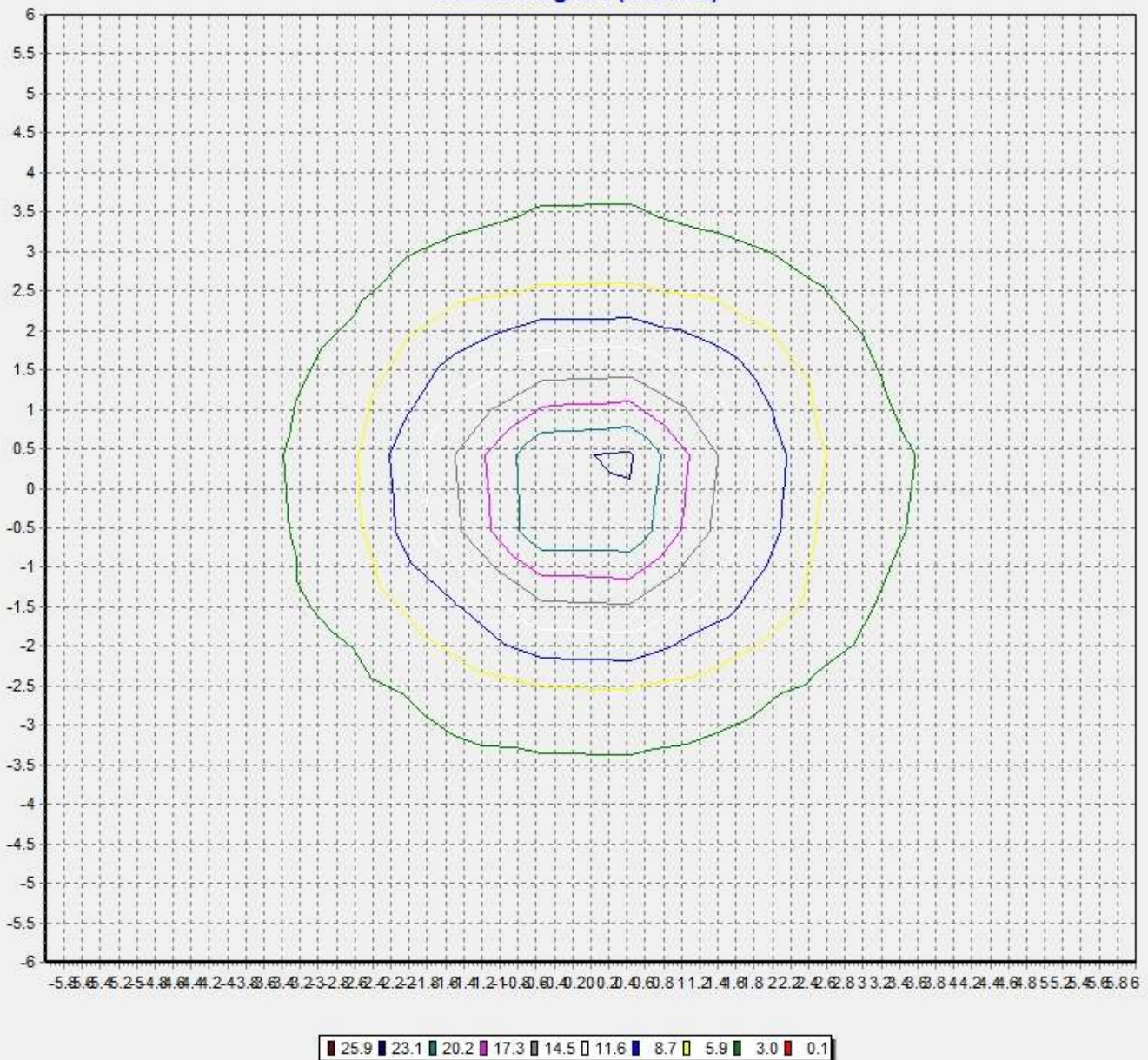
IsoCandela (Type C)



Luminaire

Lamp		Report	20160115-0004		
No. of lamps	1	Filename	C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\160115 HDV 일반 diffuser.jdt		
Lamp flux (lm)	478	Operator	Current (A)	0.238	
Total flux (lm)	478	Date	Power Factor	1	2016-01-15 오후 12:49:14

IsoLux Diagram (Ground)



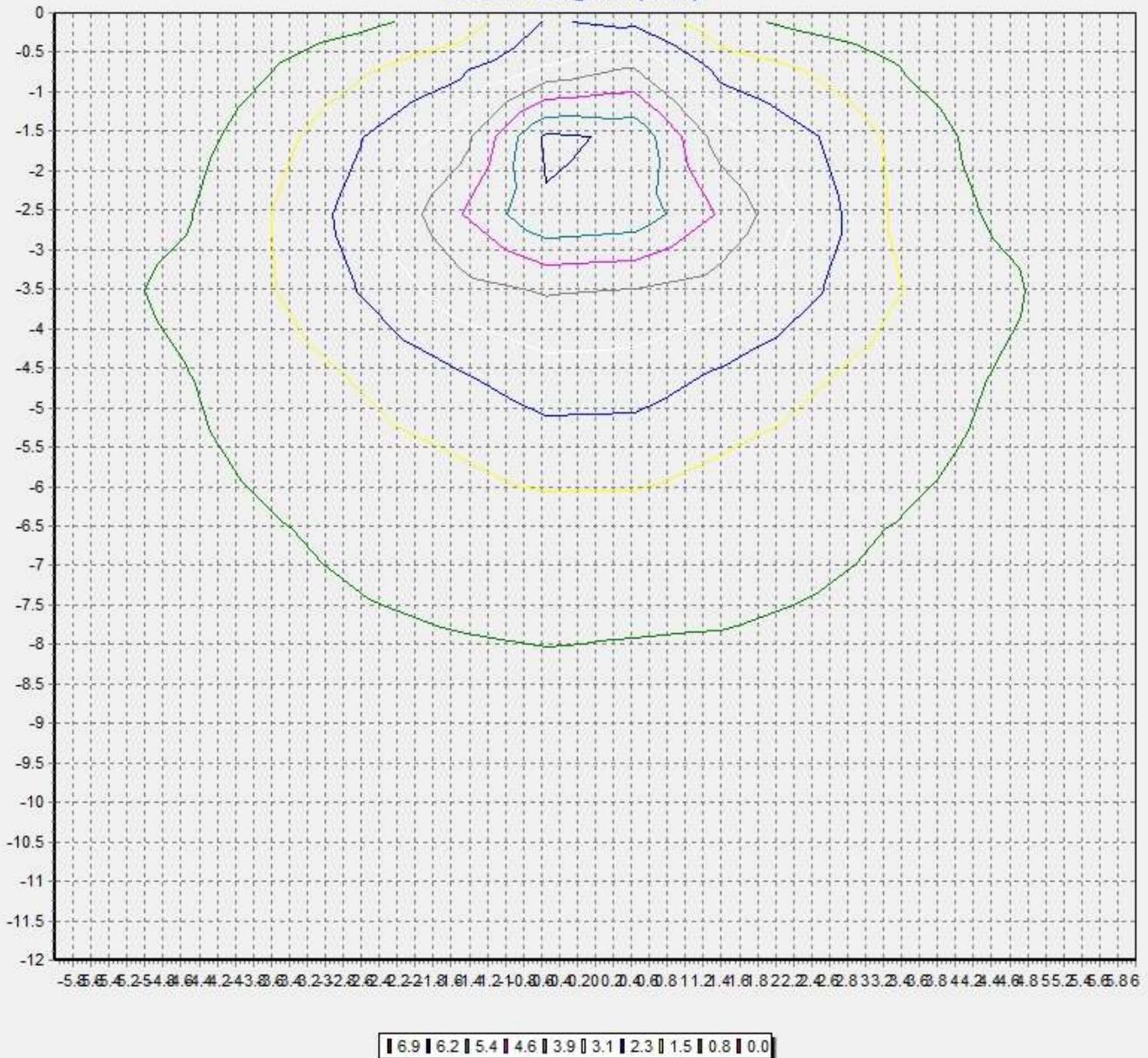
Pole Height (m): 2.7

Area Width (m): 12

Luminaire

Lamp		Report	20160115-0004		
No. of lamps	1	Filename	C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\160115 HDV 일반 diffuser.jdt		
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IsoLux Diagram (Wall)



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

Luminaire

Lamp

No. of lamps	1	Voltage (V)	23.98
Lamp flux (lm)	478	Current (A)	0.238
Total flux (lm)	478	Power Factor	1

Report

20160115-0004

Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\160115 HDV 일반 diffuser.jdt

Operator

Date

2016-01-15 오후 12:49:14

Illuminance Levels (Ground)

6.00	0.18	0.23	0.24	0.32	0.51	0.58	0.61	0.59	0.51	0.32	0.24	0.23	0.17
5.00	0.23	0.26	0.48	0.68	0.71	1.06	1.12	1.07	0.71	0.67	0.48	0.25	0.23
4.00	0.23	0.48	0.58	1.12	1.32	2.05	2.24	2.06	1.33	1.13	0.56	0.48	0.23
3.00	0.30	0.63	1.11	1.56	2.56	3.67	4.20	3.67	2.58	1.54	1.12	0.63	0.30
2.00	0.47	0.64	1.27	2.50	5.51	7.98	10.56	7.95	5.53	2.50	1.25	0.64	0.47
1.00	0.53	0.96	1.95	3.60	7.97	15.08	20.46	14.99	7.95	3.64	1.97	0.97	0.53
0.00	0.50	0.95	1.99	3.84	10.32	20.05	26.13	20.36	10.48	4.14	2.17	1.04	0.55
-1.00	0.47	0.88	1.82	3.35	7.65	14.73	20.14	14.55	7.60	3.44	1.84	0.90	0.49
-2.00	0.42	0.58	1.14	2.30	5.27	7.60	10.21	7.62	5.27	2.37	1.18	0.58	0.44
-3.00	0.27	0.56	1.01	1.39	2.38	3.43	3.96	3.51	2.41	1.46	1.04	0.59	0.28
-4.00	0.20	0.43	0.51	1.02	1.21	1.92	2.10	1.92	1.23	1.05	0.54	0.45	0.21
-5.00	0.21	0.23	0.43	0.60	0.64	0.97	1.04	0.98	0.64	0.62	0.45	0.23	0.22
-6.00	0.15	0.21	0.21	0.28	0.46	0.54	0.56	0.53	0.47	0.29	0.22	0.22	0.16
-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.): 26.1

All illuminance level values are in lux.

Illum. (Min.): 0.15

Illum. Avg.: 2.66

Total Optical Solution Provider

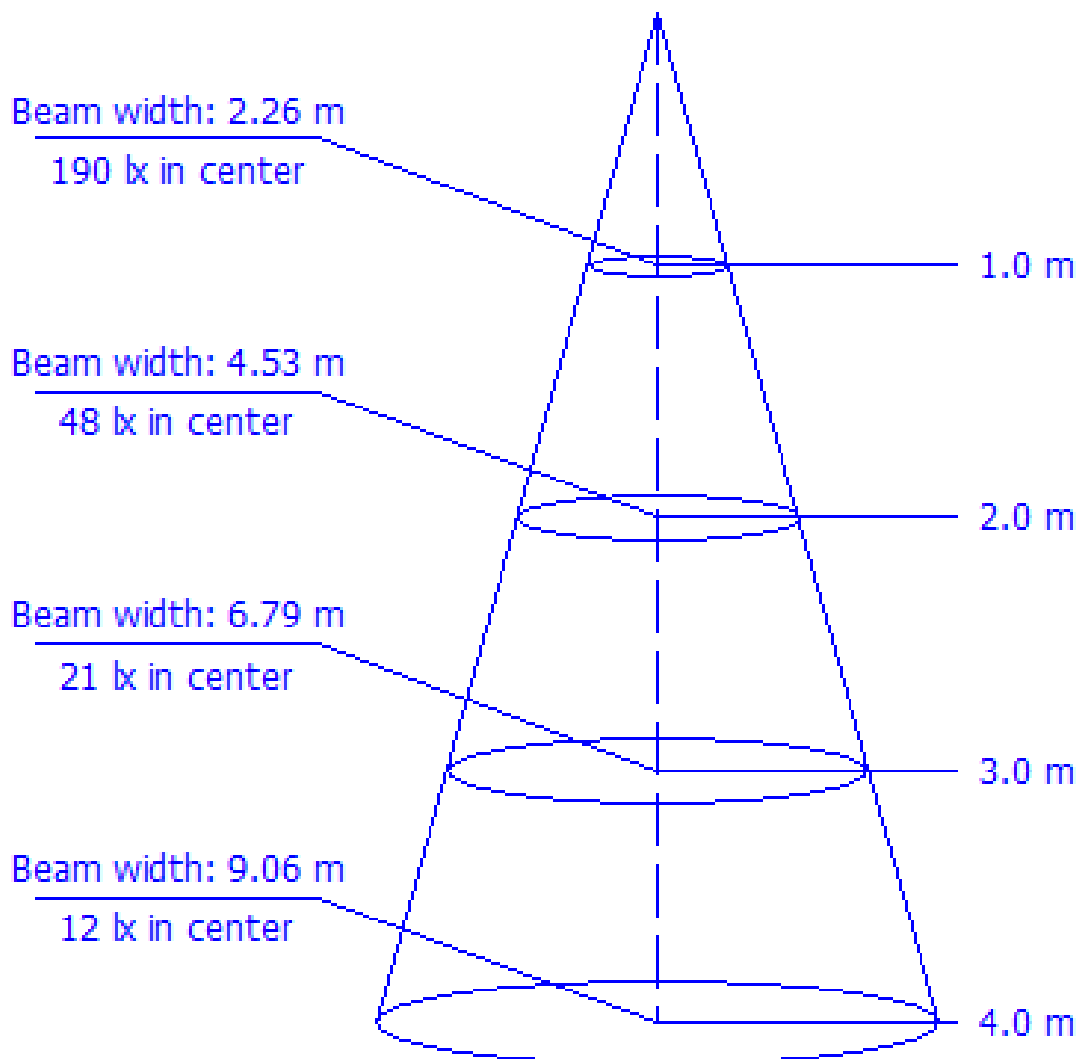


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Luminaire

Lamp		Report	20160115-0004		
No. of lamps	1	Filename	C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\160115 HDV 일반 diffuser.jdt		
Lamp flux (lm)	478	Operator	Current (A)	0.238	
Total flux (lm)	478	Date	Power Factor	1	2016-01-15 오후 12:49:14

Illuminance Cone Diagram



Beam Angle = 97 deg.

Based on 50% of maximum illuminance.

Luminaire

Lamp

Report

20160115-0004

No. of lamps	1	Voltage (V)	23.98
Lamp flux (lm)	478	Current (A)	0.238
Total flux (lm)	478	Power Factor	1

Filename	C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\160115 HDV 일반 diffuser.jdt
Operator	
Date	2016-01-15 오후 12:49:14

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	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.01	1.01	1.01	0.99
Room CR 1	1.04	1.00	0.96	1.02	0.98	0.95	0.97	0.94	0.91	0.93	0.90	0.88	0.89	0.87	0.85	0.83
Room CR 2	0.92	0.85	0.79	0.90	0.83	0.78	0.86	0.81	0.76	0.82	0.78	0.74	0.79	0.75	0.72	0.70
Room CR 3	0.81	0.73	0.67	0.79	0.72	0.66	0.76	0.70	0.65	0.73	0.68	0.63	0.70	0.66	0.62	0.60
Room CR 4	0.72	0.64	0.57	0.71	0.63	0.57	0.68	0.61	0.56	0.65	0.59	0.55	0.63	0.58	0.54	0.51
Room CR 5	0.65	0.56	0.50	0.64	0.55	0.49	0.61	0.54	0.48	0.59	0.53	0.48	0.57	0.51	0.47	0.45
Room CR 6	0.59	0.50	0.44	0.58	0.49	0.43	0.56	0.48	0.43	0.54	0.47	0.42	0.52	0.46	0.42	0.40
Room CR 7	0.53	0.45	0.39	0.52	0.44	0.38	0.51	0.43	0.38	0.49	0.43	0.38	0.48	0.42	0.37	0.35
Room CR 8	0.49	0.40	0.35	0.48	0.40	0.35	0.47	0.39	0.34	0.45	0.39	0.34	0.44	0.38	0.34	0.32
Room CR 9	0.45	0.37	0.31	0.44	0.36	0.31	0.43	0.36	0.31	0.42	0.35	0.31	0.41	0.35	0.30	0.29
Room CR 10	0.41	0.34	0.29	0.41	0.33	0.28	0.40	0.33	0.28	0.39	0.32	0.28	0.38	0.32	0.28	0.26