

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 : 2016-02-01

2. Purpose of Report : Sample test

3. Test Standard / Item : LED / 160202 HDV24 27K-24V

4. Test Period : 2016-02-02 ~ 2016-02-02

5. Test Environment

Ambient Temp. : (18.18 +- 3) °C

Relative Humidity : (8.99 +- 10) % RH

6. Test Result : Refer to the attachment

Test Item

Name of Product :

Model / Rating :

Model :

Rating :

Confirmation	Test by JunYoung, Song	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
			LED

Test Item	Unit	Result	Memo
Beam Distribution Test	-	See attachment	
ATHD	%	0.0	
CIE 1931 Cxy		0.4409, 0.4043	
Correlated Color Temperature	K	2952	
Ra	-	83.95	
Power Factor	%	1.000	
Input Voltage	V	23.900	
Input Current	A	0.940	
Input Watt	W	22.47	
Lamp Flux	lm	2329.7	
Efficient	lm/W	103.70	
Illuminance	lx	2481	1 m
		620	2 m
		276	3 m

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

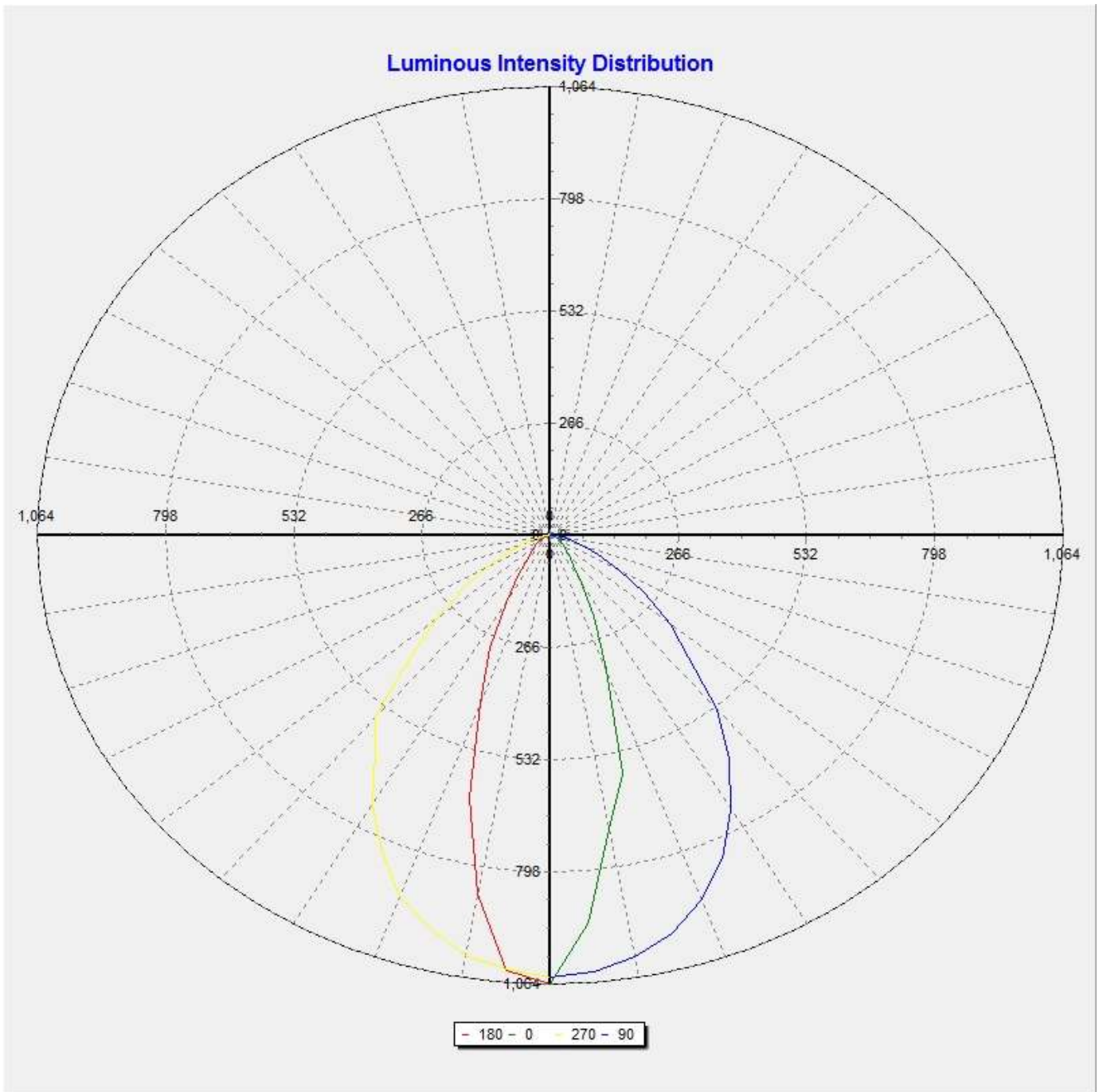
Sample photo

Click to load image

Luminaire

Lamp	Report			
No. of lamps	1	Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\20160202 HDV24 27K-24V.jdt		
Lamp flux (lm)	2330	Operator	Current (A)	0.94
Total flux (lm)	2330	Date	Power Factor	1

2016-02-02 오후 1:46:00

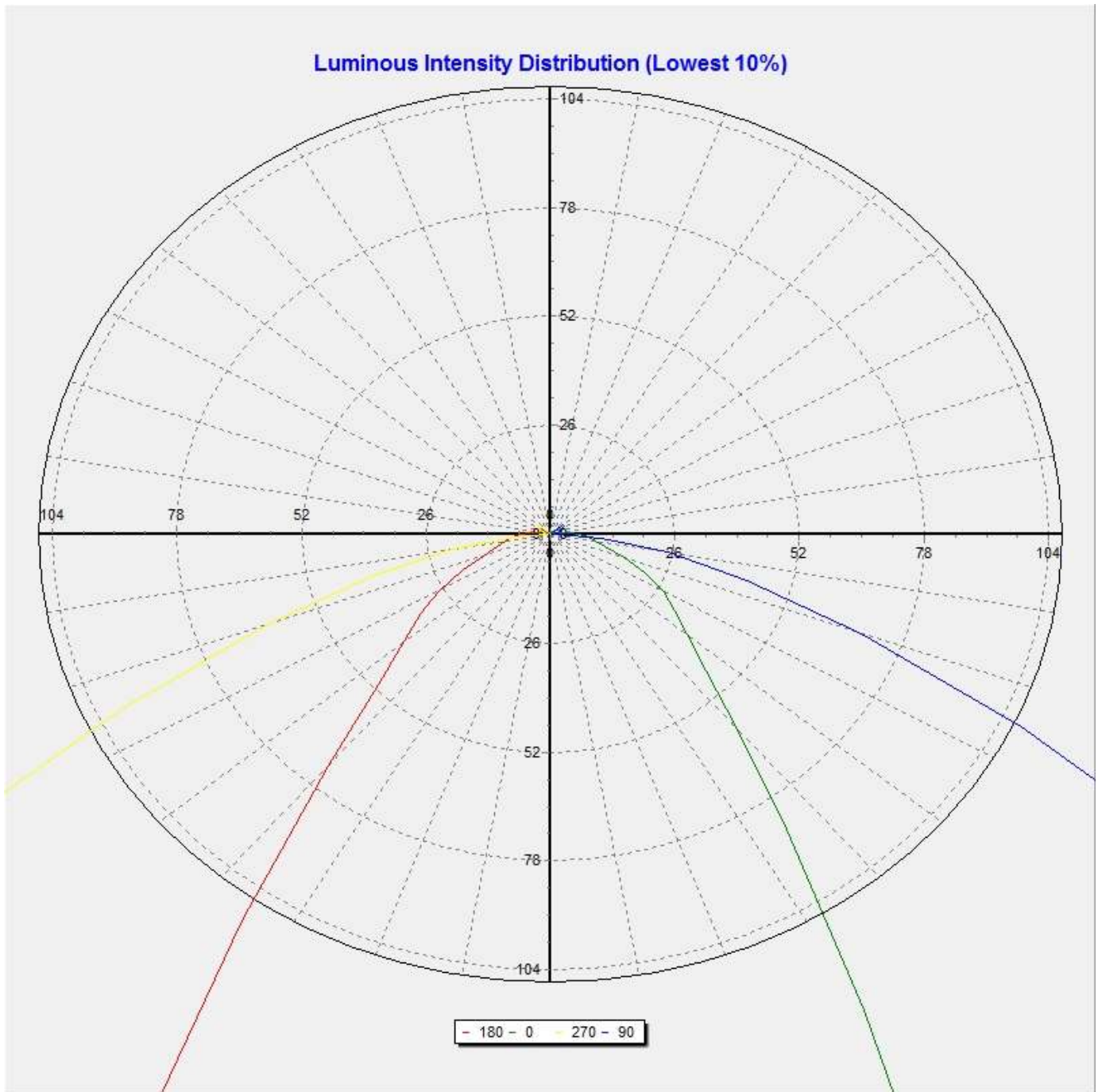


All luminous intensity values are in Cd/KLm unit.

Luminaire

Lamp	Report			
No. of lamps	1	Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\20160202 HDV24 27K-24V.jdt		
Lamp flux (lm)	2330	Operator	Current (A)	0.94
Total flux (lm)	2330	Date	Power Factor	1

2016-02-02 오후 1:46:00



All luminous intensity values are in Cd/Klm unit.

Luminaire

Lamp	Report			
No. of lamps	1	Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\20160202 HDV24 27K-24V.jdt		
Lamp flux (lm)	2330	Operator	Current (A)	0.94
Total flux (lm)	2330	Date	Power Factor	1
				2016-02-02 오후 1:46:00

Luminous Intensity Data

GWC	0	10	20	30	40	50	60	70	80	90	100
0	2481.37	2471.07	2476.04	2468.27	2466.77	2459.33	2458.52	2451.94	2443.03	2443.20	2431.88
5	2148.99	2137.82	2174.39	2184.97	2228.29	2257.86	2309.24	2350.41	2391.01	2422.62	2453.55
10	1649.52	1637.48	1693.95	1734.92	1840.88	1930.08	2057.95	2169.90	2292.28	2368.57	2420.58
15	1361.34	1192.20	1420.17	1324.25	1591.21	1570.92	1759.59	1952.54	2142.67	2281.48	2341.54
20	791.23	731.96	863.76	877.71	1086.63	1239.65	1576.07	1690.73	1967.59	2139.78	2212.52
25	496.03	502.12	556.17	629.94	771.18	889.24	1180.74	1440.48	1751.93	1967.20	2026.81
30	306.24	310.37	345.65	400.50	514.65	681.02	924.64	1194.45	1515.24	1751.99	1802.45
35	199.84	202.77	224.53	257.83	335.92	468.87	695.98	928.02	1371.77	1509.78	1538.89
40	141.81	143.50	155.73	178.26	225.90	317.18	501.77	763.64	1047.62	1251.15	1378.05
45	107.45	108.82	116.69	130.95	161.57	220.94	355.69	573.14	829.22	949.13	999.96
50	86.68	87.53	92.59	102.02	122.76	162.26	255.83	419.15	627.38	759.44	759.37
55	73.99	74.12	77.65	84.03	97.49	123.86	185.86	301.06	454.82	554.18	545.79
60	64.06	64.06	67.08	71.38	80.65	98.07	139.15	215.08	314.60	383.18	372.93
65	51.26	51.34	54.73	59.73	67.43	79.76	104.50	151.23	211.43	252.84	244.51
70	37.90	38.40	41.23	45.92	53.99	62.93	77.97	104.37	140.48	161.21	154.78
75	27.61	28.30	29.14	32.58	39.96	48.87	55.03	69.78	89.31	99.09	95.51
80	22.05	22.44	22.27	23.20	25.88	33.05	38.59	41.96	52.60	57.94	55.41
85	19.00	17.67	18.40	17.32	18.81	22.10	24.36	23.34	23.83	24.97	25.15
90	14.05	13.13	13.38	13.23	12.00	14.09	13.54	11.52	7.36	2.47	6.79
95	9.46	9.26	7.97	6.72	6.94	4.84	3.38	2.02	2.14	2.18	2.43
100	2.91	2.46	2.10	1.16	1.01	1.36	2.62	2.89	3.61	3.30	2.23
105	1.91	1.37	0.91	1.76	1.88	1.66	2.21	3.26	3.43	4.12	4.06
110	1.62	1.67	2.51	1.61	2.64	3.54	3.95	3.81	4.15	4.83	3.84
115	2.46	2.26	2.29	2.50	2.58	3.13	4.85	4.51	5.45	4.89	5.68
120	2.60	3.12	3.99	4.33	4.08	4.57	5.60	5.73	6.86	6.04	6.72
125	4.25	4.83	4.10	4.98	5.19	6.17	6.37	7.35	7.26	7.74	7.33
130	5.36	5.63	5.51	6.67	6.41	7.09	6.61	9.01	8.03	7.72	8.00

Luminaire

Lamp	Report			
No. of lamps	1	Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\20160202 HDV24 27K-24V.jdt		
Lamp flux (lm)	2330	Operator	Current (A)	0.94
Total flux (lm)	2330	Date	Power Factor	1
				2016-02-02 오후 1:46:00

Luminous Intensity Data (Continued)

GWC	110	120	130	140	150	160	170	180	190	200	210
0	2424.19	2419.58	2415.20	2406.85	2412.04	2396.01	2411.40	2481.37	2471.07	2476.04	2468.27
5	2469.97	2485.46	2489.73	2480.57	2487.41	2489.27	2478.74	2414.69	2431.81	2437.05	2455.31
10	2432.03	2418.71	2364.80	2323.49	2250.47	2217.65	2175.54	2012.13	2034.16	2065.37	2149.05
15	2316.19	2234.69	2099.03	1964.19	1825.87	1745.79	1677.73	1503.79	1725.81	1585.52	1694.40
20	2130.08	1954.92	1728.67	1703.56	1386.36	1459.80	1212.22	982.92	1093.73	1150.91	1423.83
25	1878.77	1639.68	1374.15	1173.59	926.92	891.96	745.61	684.14	713.81	708.34	901.85
30	1602.87	1443.41	988.76	837.33	665.21	568.70	509.40	424.00	444.04	485.36	591.64
35	1320.41	1038.95	762.40	561.63	421.48	354.47	313.57	262.23	274.89	302.89	371.14
40	1005.64	788.35	522.77	359.48	265.81	224.78	198.87	168.69	176.98	193.29	235.25
45	809.73	561.30	346.15	233.60	174.94	149.66	135.15	118.68	123.70	132.85	158.22
50	593.26	386.02	232.77	160.45	123.84	109.40	100.32	92.67	94.41	99.63	114.59
55	416.96	264.32	162.60	116.10	95.39	86.60	82.38	77.30	78.94	81.99	90.26
60	281.96	182.68	117.95	90.73	77.90	71.78	68.18	63.10	64.60	67.36	74.21
65	188.14	126.68	89.16	70.91	62.77	56.16	52.59	46.95	49.22	52.27	58.50
70	123.66	88.37	66.39	55.29	46.22	41.57	39.52	34.95	36.31	37.78	42.72
75	78.19	59.61	49.59	39.81	32.85	31.41	28.81	26.55	25.67	27.21	29.75
80	44.65	39.64	33.40	27.14	23.73	23.28	23.60	22.48	22.77	22.57	22.47
85	23.94	24.67	22.34	19.61	18.22	19.68	19.43	18.82	18.44	18.45	17.53
90	11.37	14.07	14.07	13.34	13.86	14.82	15.60	14.75	14.42	13.19	12.33
95	1.64	4.06	6.00	7.20	8.48	9.98	10.54	9.28	8.21	8.02	6.19
100	2.96	2.30	2.04	1.75	1.36	1.79	2.49	1.40	0.30	1.10	1.39
105	4.14	2.97	2.97	0.97	1.76	1.55	0.87	1.12	1.02	1.67	1.42
110	3.97	3.48	3.30	1.48	1.61	1.75	1.14	1.31	0.61	1.78	1.00
115	4.87	4.21	3.31	3.36	2.78	1.56	2.15	1.45	1.50	1.58	1.91
120	5.22	5.52	4.47	4.36	2.98	1.77	2.47	2.10	2.76	2.58	2.60
125	7.03	6.85	5.85	5.05	4.38	3.39	2.40	3.01	3.44	3.42	4.30
130	8.82	7.33	7.41	6.44	5.90	4.67	4.60	4.24	3.71	4.37	4.51

Luminaire

Lamp	Report				
No. of lamps	1	Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\20160202 HDV24 27K-24V.jdt			
Lamp flux (lm)	2330	Operator	Current (A)	0.94	
Total flux (lm)	2330	Date	Power Factor	1	2016-02-02 오후 1:46:00

Luminous Intensity Data (Continued)

GWC	220	230	240	250	260	270	280	290	300	310	320
0	2466.77	2459.33	2458.52	2451.94	2443.03	2443.20	2431.88	2424.19	2419.58	2415.20	2406.85
5	2467.06	2474.28	2482.72	2468.84	2445.13	2406.92	2363.48	2311.16	2225.89	2169.60	2088.88
10	2211.75	2310.80	2379.33	2410.89	2409.47	2355.08	2249.39	2117.52	1958.21	1833.08	1696.34
15	1822.38	1995.75	2151.93	2275.24	2320.39	2251.04	2093.22	1882.22	1654.35	1608.38	1314.61
20	1421.08	1631.23	1858.21	2075.70	2171.09	2121.58	1901.83	1631.27	1362.45	1160.20	910.54
25	990.28	1416.03	1538.60	1824.19	1975.28	1931.06	1688.16	1478.94	1047.90	870.74	675.52
30	740.82	973.26	1237.45	1541.53	1740.08	1721.71	1454.22	1144.10	853.81	618.57	446.22
35	488.36	694.49	913.12	1364.46	1477.25	1472.04	1223.71	927.95	631.20	422.00	292.96
40	312.32	472.26	714.43	999.69	1207.85	1312.98	953.83	721.76	450.93	286.48	201.24
45	205.12	313.37	503.59	759.44	890.77	956.67	781.56	539.29	320.96	203.86	147.29
50	144.10	211.87	347.26	557.63	702.48	724.48	586.05	392.64	231.36	150.81	112.94
55	107.93	151.10	237.90	381.56	496.79	517.36	416.25	282.27	169.91	116.56	91.14
60	84.53	110.53	166.18	259.21	335.56	355.06	285.93	200.16	128.28	93.43	76.59
65	67.15	83.45	115.77	172.56	217.33	230.27	190.70	140.83	96.17	75.44	63.26
70	51.14	61.46	79.97	112.25	137.79	146.68	124.18	96.38	71.68	59.09	50.25
75	35.06	43.82	52.79	69.85	83.62	88.97	78.46	63.80	50.30	44.35	35.77
80	23.44	28.47	32.30	39.06	46.05	48.89	43.91	36.86	34.76	29.60	23.72
85	17.58	19.52	21.21	16.82	16.75	17.27	17.48	20.08	22.39	19.93	17.76
90	11.90	12.09	10.80	7.89	4.29	1.56	4.29	8.28	11.01	10.90	10.67
95	5.48	2.54	1.85	0.95	1.55	1.45	1.69	1.88	1.74	2.78	4.49
100	1.16	0.83	2.33	2.69	2.21	3.33	2.84	2.52	1.86	1.71	1.36
105	0.75	1.73	2.29	3.20	4.17	3.71	3.53	3.06	2.48	2.09	2.15
110	2.38	2.31	3.90	3.72	4.26	4.10	4.12	3.95	3.87	2.68	2.39
115	2.94	3.63	4.66	4.99	5.52	5.97	5.29	4.75	4.27	3.74	3.48
120	3.48	5.02	5.00	5.98	6.25	6.08	5.48	5.38	5.19	4.77	3.84
125	5.14	5.34	6.96	6.62	7.09	7.30	7.02	7.12	6.25	6.09	5.05
130	5.96	6.79	7.35	7.51	8.03	7.26	7.32	7.23	7.87	6.88	6.76

Luminaire

Lamp	Report			
No. of lamps	1	Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\20160202 HDV24 27K-24V.jdt		
Lamp flux (lm)	2330	Operator	Current (A)	0.94
Total flux (lm)	2330	Date	Power Factor	1

2016-02-02 오후 1:46:00

Luminous Intensity Data (Continued)

GWC	330	340	350	360
0	2412.04	2396.01	2411.40	2481.37
5	2059.57	2005.30	1998.00	2148.99
10	1613.23	1524.95	1693.29	1649.52
15	1356.22	1038.60	1074.36	1361.34
20	847.85	744.52	701.54	791.23
25	553.27	472.37	437.21	496.03
30	355.14	295.66	274.84	306.24
35	231.31	196.54	182.35	199.84
40	163.01	140.47	131.54	141.81
45	121.24	106.83	102.14	107.45
50	96.18	87.96	83.33	86.68
55	80.72	73.54	71.61	73.99
60	69.04	63.59	61.24	64.06
65	56.45	50.57	47.48	51.26
70	42.32	36.95	35.48	37.90
75	29.66	25.93	25.51	27.61
80	21.70	22.07	21.31	22.05
85	16.37	16.44	16.78	19.00
90	11.37	11.55	12.05	14.05
95	5.57	6.70	6.93	9.46
100	1.43	0.29	0.75	2.91
105	0.90	0.20	0.69	1.91
110	1.25	1.71	1.20	1.62
115	2.63	1.94	1.25	2.46
120	3.40	2.70	3.13	2.60
125	4.37	3.67	3.57	4.25
130	5.51	6.21	5.17	5.36

Luminaire

Lamp	Report			
No. of lamps	1	Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\20160202 HDV24 27K-24V.jdt		
Lamp flux (lm)	2330	Operator	Current (A)	0.94
Total flux (lm)	2330	Date	Power Factor	1

2016-02-02 오후 1:46:00

Luminous Flux Table

Total Lamp Lumens: 2330
 Luminaire Efficiency (lm/W) 2329.68
 CIE Classification: Direct

Elevation	Lumens	Cumulative	Lamp %	Luminaire %
0	14.60	14.60	0.63	0.63
5	111.66	126.26	5.42	5.42
10	198.31	324.57	13.93	13.93
15	252.80	577.37	24.78	24.78
20	270.50	847.87	36.39	36.39
25	262.22	1110.09	47.65	47.65
30	241.37	1351.46	58.01	58.01
35	211.66	1563.12	67.10	67.10
40	179.23	1742.36	74.79	74.79
45	144.81	1887.16	81.00	81.01
50	116.77	2003.93	86.02	86.02
55	91.30	2095.24	89.94	89.94
60	70.15	2165.39	92.95	92.95
65	52.29	2217.68	95.19	95.19
70	37.74	2255.42	96.81	96.81
75	26.07	2281.49	97.93	97.93
80	17.29	2298.78	98.67	98.67
85	10.81	2309.59	99.14	99.14
90	6.12	2315.71	99.40	99.40
95	2.77	2318.48	99.52	99.52
100	1.05	2319.53	99.56	99.56
105	1.15	2320.67	99.61	99.61
110	1.39	2322.07	99.67	99.67
115	1.72	2323.78	99.75	99.75
120	2.06	2325.84	99.83	99.84
125	2.45	2328.29	99.94	99.94
130	1.39	2329.68	100.00	100.00

Luminaire

Lamp

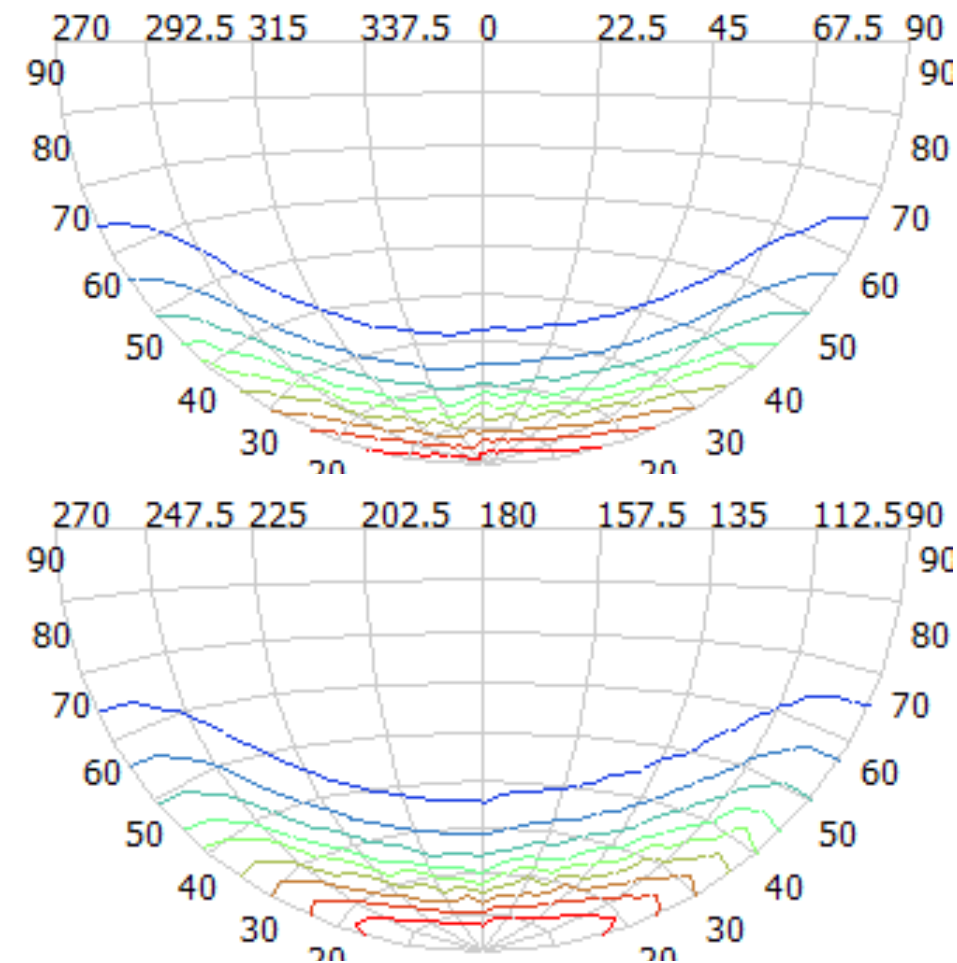
Report

No. of lamps 1 Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\20160202 HDV24 27K-24V.jdt

Lamp flux (lm) 2330 Operator Current (A) 0.94

Total flux (lm) 2330 Date Power Factor 1 2016-02-02 오후 1:46:00

IsoCandela (Type C)



Luminaire

Lamp

Report

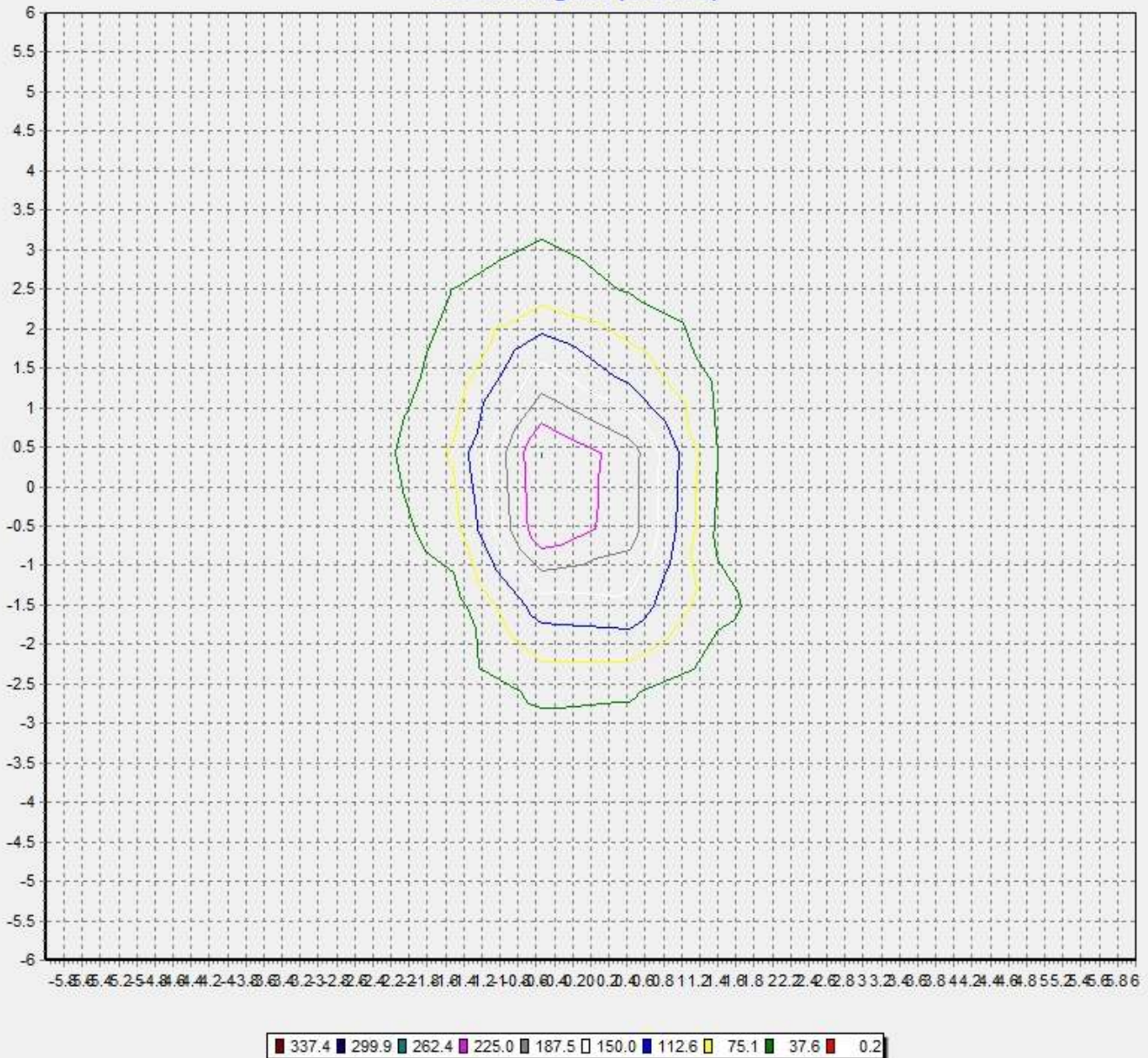
No. of lamps 1 Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\20160202 HDV24 27K-24V.jdt

Lamp flux (lm) 2330 Operator Current (A) 0.94

Total flux (lm) 2330 Date Power Factor 1

2016-02-02 오후 1:46:00

IsoLux Diagram (Ground)



Pole Height (m): 2.7

Area Width (m): 12

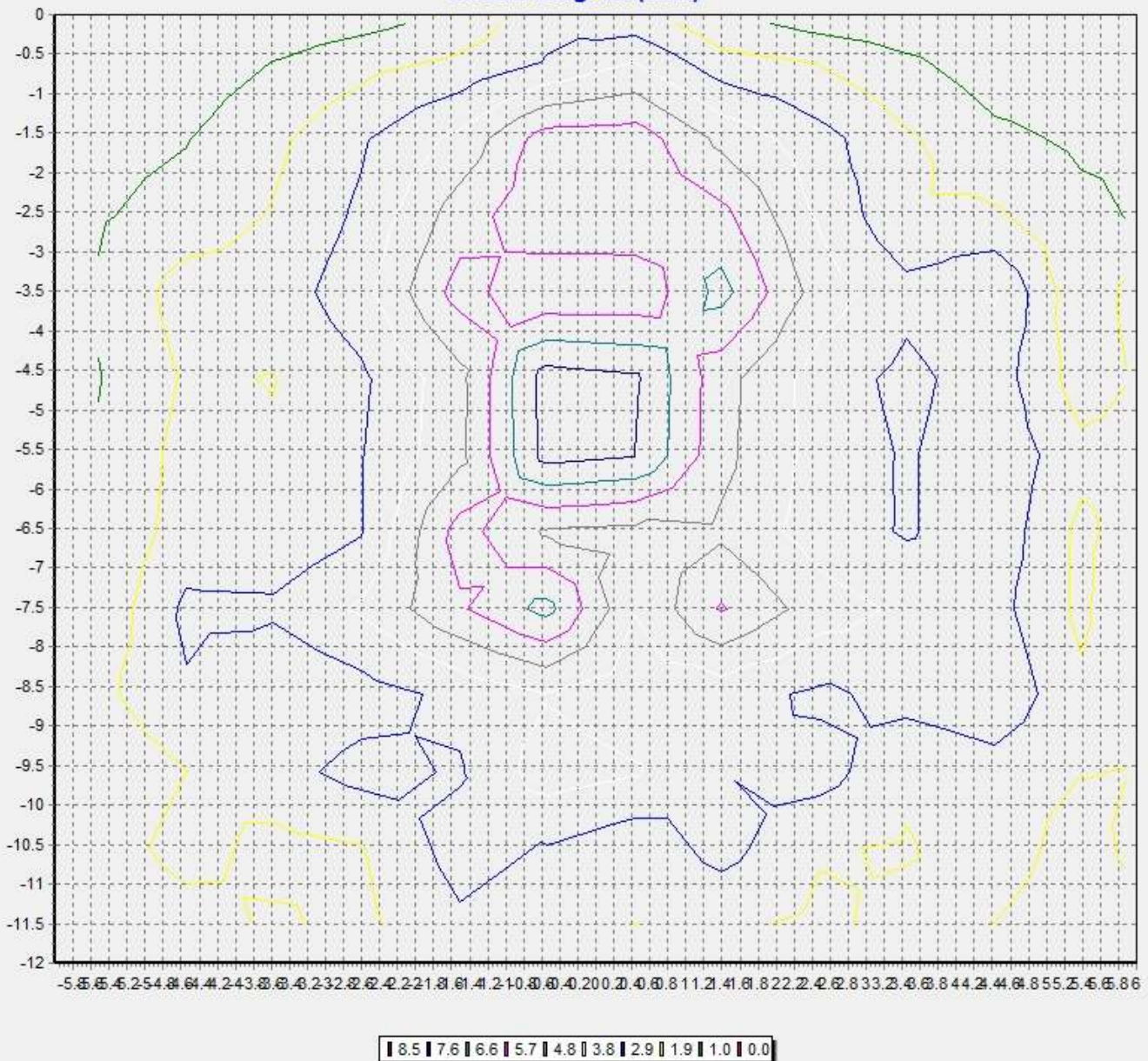
Luminaire

Lamp

Report

No. of lamps 1 Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\20160202 HDV24 27K-24V.jdt
 Lamp flux (lm) 2330 Operator Current (A) 0.94
 Total flux (lm) 2330 Date Power Factor 1 2016-02-02 오후 1:46:00

IsoLux Diagram (Wall)



Pole Height (m): 2.7
 Aiming Plane: 0

Wall Distance (m): 2.7
 Wall Height (m): 12

Luminaire

Lamp

No. of lamps	1	Voltage (V)	23.9
Lamp flux (lm)	2330	Current (A)	0.94
Total flux (lm)	2330	Power Factor	1

Report

Filename	C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\20160202 HDV24 27K-24V.jdt
Operator	
Date	2016-02-02 오후 1:46:00

Illuminance Levels (Ground)

6.00	0.36	0.41	0.69	0.85	2.15	3.17	3.44	1.89	1.13	0.54	0.44	0.31	0.22
5.00	0.40	0.52	0.91	2.74	3.39	6.76	7.33	5.33	2.00	1.37	0.62	0.33	0.31
4.00	0.30	0.82	1.23	2.59	4.53	15.45	17.28	11.04	2.26	1.46	0.71	0.59	0.26
3.00	0.42	0.80	1.99	3.85	12.34	24.07	34.28	10.97	5.44	1.77	1.30	0.68	0.35
2.00	0.59	0.77	1.73	3.41	27.18	55.34	119.43	24.62	8.45	2.54	1.37	0.69	0.51
1.00	0.63	1.08	2.19	4.75	21.37	129.02	257.04	54.55	11.04	3.53	1.86	0.98	0.56
0.00	0.57	1.07	2.15	4.23	26.66	166.30	340.38	149.82	19.48	3.90	2.02	1.04	0.59
-1.00	0.56	1.01	1.98	3.83	14.43	76.10	253.69	80.22	12.18	3.65	1.82	0.95	0.56
-2.00	0.51	0.68	1.43	2.73	11.26	35.80	117.11	34.96	15.37	2.69	1.46	0.69	0.53
-3.00	0.34	0.69	1.41	1.89	7.07	14.88	33.54	16.45	8.11	2.69	1.50	0.71	0.38
-4.00	0.24	0.61	0.71	1.65	2.67	12.97	16.43	13.54	3.13	1.82	0.97	0.67	0.28
-5.00	0.31	0.31	0.64	1.62	2.33	5.85	6.83	6.15	2.60	1.95	0.72	0.43	0.35
-6.00	0.21	0.31	0.45	0.56	1.33	2.24	3.18	2.46	1.57	0.66	0.54	0.35	0.29
-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.): 340

All illuminance level values are in lux.

Illum. (Min.): 0.21

Illum. Avg.: 14.9

Total Optical Solution Provider



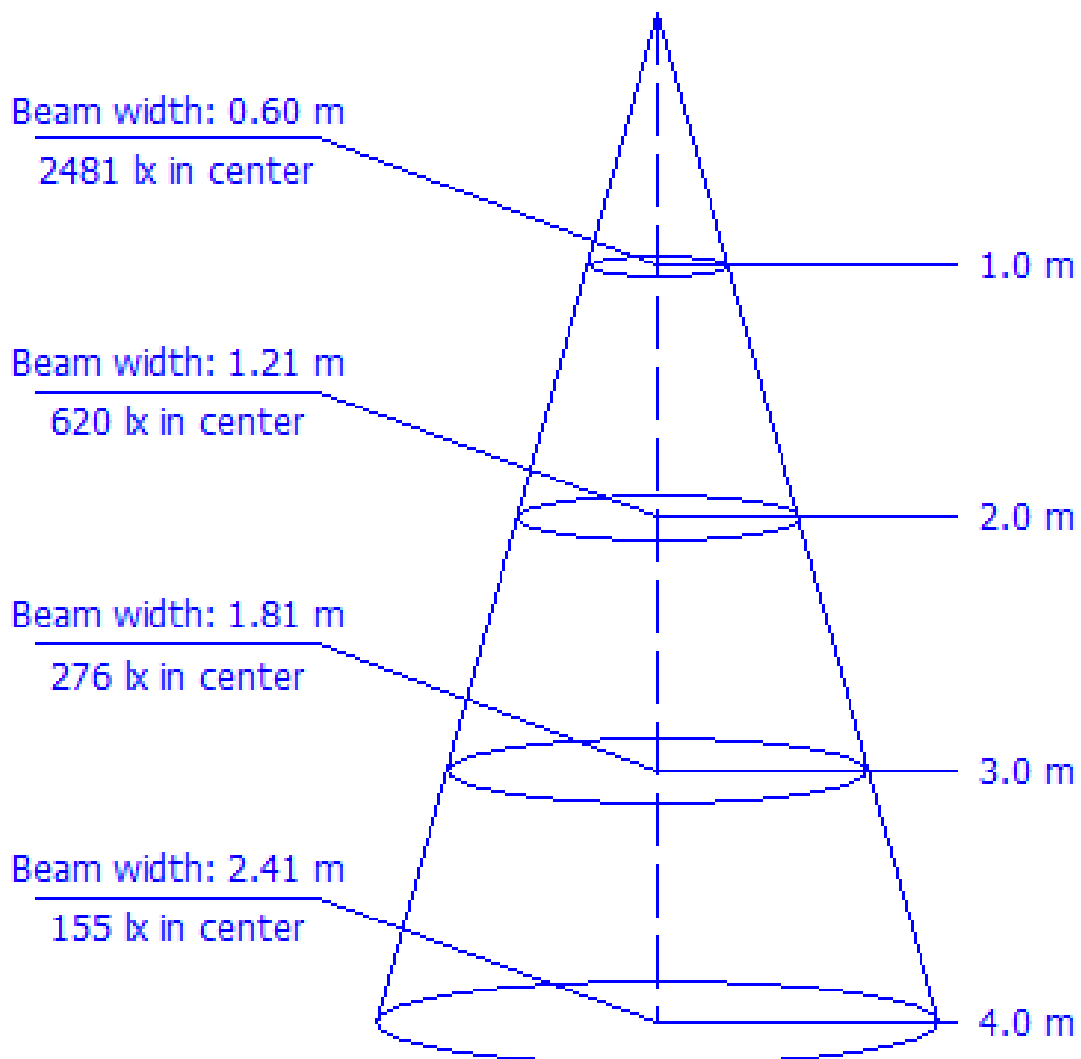
<http://www.jnctech.co.kr>
J & C Technology Co., Ltd.

Luminaire

Lamp	Report			
No. of lamps	1	Filename C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\20160202 HDV24 27K-24V.jdt		
Lamp flux (lm)	2330	Operator	Current (A)	0.94
Total flux (lm)	2330	Date	Power Factor	1

2016-02-02 오후 1:46:00

Illuminance Cone Diagram



Beam Angle = 34 deg.

Based on 50% of maximum illuminance.

Luminaire

Lamp

Report

No. of lamps	1	Voltage (V)	23.9
Lamp flux (lm)	2330	Current (A)	0.94
Total flux (lm)	2330	Power Factor	1

Filename	C:\Users\WFEELUX\Desktop\완료 리포트\Data\2016\20160202 HDV24 27K-24V.jdt
Operator	
Date	2016-02-02 오후 1:46:00

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	1.08	1.05	1.02	1.06	1.03	1.00	1.01	0.99	0.97	0.97	0.95	0.94	0.94	0.92	0.91	0.89
Room CR 2	0.98	0.93	0.88	0.96	0.91	0.87	0.92	0.89	0.85	0.89	0.86	0.83	0.86	0.84	0.81	0.79
Room CR 3	0.89	0.83	0.78	0.88	0.82	0.77	0.85	0.80	0.76	0.82	0.78	0.74	0.80	0.76	0.73	0.71
Room CR 4	0.82	0.75	0.69	0.80	0.74	0.69	0.78	0.72	0.68	0.76	0.71	0.67	0.74	0.70	0.66	0.64
Room CR 5	0.75	0.68	0.63	0.74	0.67	0.62	0.72	0.66	0.62	0.70	0.65	0.61	0.68	0.64	0.60	0.59
Room CR 6	0.70	0.62	0.57	0.69	0.62	0.57	0.67	0.61	0.56	0.65	0.60	0.56	0.64	0.59	0.55	0.54
Room CR 7	0.65	0.58	0.53	0.64	0.57	0.52	0.62	0.56	0.52	0.61	0.56	0.52	0.60	0.55	0.51	0.50
Room CR 8	0.60	0.53	0.49	0.60	0.53	0.48	0.58	0.52	0.48	0.57	0.52	0.48	0.56	0.51	0.48	0.46
Room CR 9	0.57	0.50	0.45	0.56	0.49	0.45	0.55	0.49	0.45	0.54	0.48	0.45	0.53	0.48	0.44	0.43
Room CR 10	0.53	0.47	0.42	0.53	0.46	0.42	0.52	0.46	0.42	0.51	0.45	0.42	0.50	0.45	0.42	0.40