



IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4CRDI-XX-L12-835U-L12-835D-XXX-DIM1-UNV-LW-CSU-OW-CSD-WM_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN from UL #13537338.10 and #13131414.01
 [TESTLAB]
 [ISSUE DATE] 18-DEC-2024
 [MANUFAC] WILLIAMS INDOOR
 [MORE] H E Williams Inc. - Carthage, MO
 [LUMCAT] 4CRDI-xx-L12-835U-L12-835D-xxx-DIM1-UNV-LW-CSU-OW-CSD-WM
 [MORE]
 [LUMINAIRE] White formed aluminum housing, wide distrib white painted flush prismatic lens trim up,
 [MORE] wide distrib anodized alum open reflector trim down
 [LAMP] Two white LEDs (one up/one down)

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2662
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	93
Total Luminaire Watts	28.5
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	0.31 ft (Diameter)
Luminous Width (90-270)	0.31 ft (Diameter)
Luminous Height	1.44 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2216	2216	2216
55	462	462	462
65	145	145	145
75	27	27	27
85	2	2	2

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
0.0	1027.621	1027.621	1027.621	1027.621	1027.621	1027.621	1027.621	1027.621	1027.621	1027.621
2.5	1029.154	1029.154	1029.154	1029.154	1029.154	1029.154	1029.154	1029.154	1029.154	1029.154
5.0	1038.863	1038.863	1038.863	1038.863	1038.863	1038.863	1038.863	1038.863	1038.863	1038.863
7.5	1057.770	1057.770	1057.770	1057.770	1057.770	1057.770	1057.770	1057.770	1057.770	1057.770
10.0	1073.100	1073.100	1073.100	1073.100	1073.100	1073.100	1073.100	1073.100	1073.100	1073.100
12.5	1075.144	1075.144	1075.144	1075.144	1075.144	1075.144	1075.144	1075.144	1075.144	1075.144
15.0	1066.457	1066.457	1066.457	1066.457	1066.457	1066.457	1066.457	1066.457	1066.457	1066.457
17.5	1056.748	1056.748	1056.748	1056.748	1056.748	1056.748	1056.748	1056.748	1056.748	1056.748
20.0	1042.440	1042.440	1042.440	1042.440	1042.440	1042.440	1042.440	1042.440	1042.440	1042.440
22.5	1004.626	1004.626	1004.626	1004.626	1004.626	1004.626	1004.626	1004.626	1004.626	1004.626
25.0	949.949	949.949	949.949	949.949	949.949	949.949	949.949	949.949	949.949	949.949
27.5	870.233	870.233	870.233	870.233	870.233	870.233	870.233	870.233	870.233	870.233
30.0	774.676	774.676	774.676	774.676	774.676	774.676	774.676	774.676	774.676	774.676
32.5	669.921	669.921	669.921	669.921	669.921	669.921	669.921	669.921	669.921	669.921
35.0	556.479	556.479	556.479	556.479	556.479	556.479	556.479	556.479	556.479	556.479
37.5	421.268	421.268	421.268	421.268	421.268	421.268	421.268	421.268	421.268	421.268
40.0	266.589	266.589	266.589	266.589	266.589	266.589	266.589	266.589	266.589	266.589
42.5	146.555	146.555	146.555	146.555	146.555	146.555	146.555	146.555	146.555	146.555
45.0	76.803	76.803	76.803	76.803	76.803	76.803	76.803	76.803	76.803	76.803
47.5	47.830	47.830	47.830	47.830	47.830	47.830	47.830	47.830	47.830	47.830
50.0	33.419	33.419	33.419	33.419	33.419	33.419	33.419	33.419	33.419	33.419
52.5	24.375	24.375	24.375	24.375	24.375	24.375	24.375	24.375	24.375	24.375
55.0	17.732	17.732	17.732	17.732	17.732	17.732	17.732	17.732	17.732	17.732
57.5	13.439	13.439	13.439	13.439	13.439	13.439	13.439	13.439	13.439	13.439
60.0	10.475	10.475	10.475	10.475	10.475	10.475	10.475	10.475	10.475	10.475
62.5	8.023	8.023	8.023	8.023	8.023	8.023	8.023	8.023	8.023	8.023
65.0	5.928	5.928	5.928	5.928	5.928	5.928	5.928	5.928	5.928	5.928
67.5	4.139	4.139	4.139	4.139	4.139	4.139	4.139	4.139	4.139	4.139
70.0	2.759	2.759	2.759	2.759	2.759	2.759	2.759	2.759	2.759	2.759
72.5	1.788	1.788	1.788	1.788	1.788	1.788	1.788	1.788	1.788	1.788
75.0	1.124	1.124	1.124	1.124	1.124	1.124	1.124	1.124	1.124	1.124
77.5	0.664	0.664	0.664	0.664	0.664	0.664	0.664	0.664	0.664	0.664
80.0	0.409	0.409	0.409	0.409	0.409	0.409	0.409	0.409	0.409	0.409
82.5	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204
85.0	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102
87.5	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051
90.0	2.395	2.395	2.395	2.395	2.395	2.395	2.395	2.395	2.395	2.395
92.5	2.824	2.824	2.824	2.824	2.824	2.824	2.824	2.824	2.824	2.824
95.0	4.789	4.789	4.789	4.789	4.789	4.789	4.789	4.789	4.789	4.789
97.5	7.798	7.798	7.798	7.798	7.798	7.798	7.798	7.798	7.798	7.798
100.0	11.850	11.850	11.850	11.850	11.850	11.850	11.850	11.850	11.850	11.850
102.5	16.332	16.332	16.332	16.332	16.332	16.332	16.332	16.332	16.332	16.332
105.0	21.244	21.244	21.244	21.244	21.244	21.244	21.244	21.244	21.244	21.244
107.5	26.525	26.525	26.525	26.525	26.525	26.525	26.525	26.525	26.525	26.525
110.0	32.296	32.296	32.296	32.296	32.296	32.296	32.296	32.296	32.296	32.296
112.5	38.498	38.498	38.498	38.498	38.498	38.498	38.498	38.498	38.498	38.498
115.0	45.129	45.129	45.129	45.129	45.129	45.129	45.129	45.129	45.129	45.129
117.5	52.129	52.129	52.129	52.129	52.129	52.129	52.129	52.129	52.129	52.129
120.0	59.128	59.128	59.128	59.128	59.128	59.128	59.128	59.128	59.128	59.128
122.5	65.882	65.882	65.882	65.882	65.882	65.882	65.882	65.882	65.882	65.882
125.0	72.145	72.145	72.145	72.145	72.145	72.145	72.145	72.145	72.145	72.145
127.5	78.285	78.285	78.285	78.285	78.285	78.285	78.285	78.285	78.285	78.285
130.0	84.978	84.978	84.978	84.978	84.978	84.978	84.978	84.978	84.978	84.978
132.5	93.267	93.267	93.267	93.267	93.267	93.267	93.267	93.267	93.267	93.267

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CANDELA TABULATION - (Cont.)

135.0	104.564	104.564	104.564	104.564	104.564	104.564	104.564	104.564	104.564	104.564
137.5	120.160	120.160	120.160	120.160	120.160	120.160	120.160	120.160	120.160	120.160
140.0	141.957	141.957	141.957	141.957	141.957	141.957	141.957	141.957	141.957	141.957
142.5	173.087	173.087	173.087	173.087	173.087	173.087	173.087	173.087	173.087	173.087
145.0	217.417	217.417	217.417	217.417	217.417	217.417	217.417	217.417	217.417	217.417
147.5	282.194	282.194	282.194	282.194	282.194	282.194	282.194	282.194	282.194	282.194
150.0	381.908	381.908	381.908	381.908	381.908	381.908	381.908	381.908	381.908	381.908
152.5	528.286	528.286	528.286	528.286	528.286	528.286	528.286	528.286	528.286	528.286
155.0	728.818	728.818	728.818	728.818	728.818	728.818	728.818	728.818	728.818	728.818
157.5	979.330	979.330	979.330	979.330	979.330	979.330	979.330	979.330	979.330	979.330
160.0	1254.402	1254.402	1254.402	1254.402	1254.402	1254.402	1254.402	1254.402	1254.402	1254.402
162.5	1523.334	1523.334	1523.334	1523.334	1523.334	1523.334	1523.334	1523.334	1523.334	1523.334
165.0	1762.794	1762.794	1762.794	1762.794	1762.794	1762.794	1762.794	1762.794	1762.794	1762.794
167.5	1956.204	1956.204	1956.204	1956.204	1956.204	1956.204	1956.204	1956.204	1956.204	1956.204
170.0	2094.968	2094.968	2094.968	2094.968	2094.968	2094.968	2094.968	2094.968	2094.968	2094.968
172.5	2183.998	2183.998	2183.998	2183.998	2183.998	2183.998	2183.998	2183.998	2183.998	2183.998
175.0	2230.662	2230.662	2230.662	2230.662	2230.662	2230.662	2230.662	2230.662	2230.662	2230.662
177.5	2246.012	2246.012	2246.012	2246.012	2246.012	2246.012	2246.012	2246.012	2246.012	2246.012
180.0	2249.000	2249.000	2249.000	2249.000	2249.000	2249.000	2249.000	2249.000	2249.000	2249.000

Vert. Angles Horizontal Angles

	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0.0	1027.621	1027.621	1027.621	1027.621	1027.621	1027.621	1027.621
2.5	1029.154	1029.154	1029.154	1029.154	1029.154	1029.154	1029.154
5.0	1038.863	1038.863	1038.863	1038.863	1038.863	1038.863	1038.863
7.5	1057.770	1057.770	1057.770	1057.770	1057.770	1057.770	1057.770
10.0	1073.100	1073.100	1073.100	1073.100	1073.100	1073.100	1073.100
12.5	1075.144	1075.144	1075.144	1075.144	1075.144	1075.144	1075.144
15.0	1066.457	1066.457	1066.457	1066.457	1066.457	1066.457	1066.457
17.5	1056.748	1056.748	1056.748	1056.748	1056.748	1056.748	1056.748
20.0	1042.440	1042.440	1042.440	1042.440	1042.440	1042.440	1042.440
22.5	1004.626	1004.626	1004.626	1004.626	1004.626	1004.626	1004.626
25.0	949.949	949.949	949.949	949.949	949.949	949.949	949.949
27.5	870.233	870.233	870.233	870.233	870.233	870.233	870.233
30.0	774.676	774.676	774.676	774.676	774.676	774.676	774.676
32.5	669.921	669.921	669.921	669.921	669.921	669.921	669.921
35.0	556.479	556.479	556.479	556.479	556.479	556.479	556.479
37.5	421.268	421.268	421.268	421.268	421.268	421.268	421.268
40.0	266.589	266.589	266.589	266.589	266.589	266.589	266.589
42.5	146.555	146.555	146.555	146.555	146.555	146.555	146.555
45.0	76.803	76.803	76.803	76.803	76.803	76.803	76.803
47.5	47.830	47.830	47.830	47.830	47.830	47.830	47.830
50.0	33.419	33.419	33.419	33.419	33.419	33.419	33.419
52.5	24.375	24.375	24.375	24.375	24.375	24.375	24.375
55.0	17.732	17.732	17.732	17.732	17.732	17.732	17.732
57.5	13.439	13.439	13.439	13.439	13.439	13.439	13.439
60.0	10.475	10.475	10.475	10.475	10.475	10.475	10.475
62.5	8.023	8.023	8.023	8.023	8.023	8.023	8.023
65.0	5.928	5.928	5.928	5.928	5.928	5.928	5.928
67.5	4.139	4.139	4.139	4.139	4.139	4.139	4.139
70.0	2.759	2.759	2.759	2.759	2.759	2.759	2.759
72.5	1.788	1.788	1.788	1.788	1.788	1.788	1.788
75.0	1.124	1.124	1.124	1.124	1.124	1.124	1.124
77.5	0.664	0.664	0.664	0.664	0.664	0.664	0.664
80.0	0.409	0.409	0.409	0.409	0.409	0.409	0.409

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82.5	0.204	0.204	0.204	0.204	0.204	0.204	0.204
85.0	0.102	0.102	0.102	0.102	0.102	0.102	0.102
87.5	0.051	0.051	0.051	0.051	0.051	0.051	0.051
90.0	2.395	2.395	2.395	2.395	2.395	2.395	2.395
92.5	2.824	2.824	2.824	2.824	2.824	2.824	2.824
95.0	4.789	4.789	4.789	4.789	4.789	4.789	4.789
97.5	7.798	7.798	7.798	7.798	7.798	7.798	7.798
100.0	11.850	11.850	11.850	11.850	11.850	11.850	11.850
102.5	16.332	16.332	16.332	16.332	16.332	16.332	16.332
105.0	21.244	21.244	21.244	21.244	21.244	21.244	21.244
107.5	26.525	26.525	26.525	26.525	26.525	26.525	26.525
110.0	32.296	32.296	32.296	32.296	32.296	32.296	32.296
112.5	38.498	38.498	38.498	38.498	38.498	38.498	38.498
115.0	45.129	45.129	45.129	45.129	45.129	45.129	45.129
117.5	52.129	52.129	52.129	52.129	52.129	52.129	52.129
120.0	59.128	59.128	59.128	59.128	59.128	59.128	59.128
122.5	65.882	65.882	65.882	65.882	65.882	65.882	65.882
125.0	72.145	72.145	72.145	72.145	72.145	72.145	72.145
127.5	78.285	78.285	78.285	78.285	78.285	78.285	78.285
130.0	84.978	84.978	84.978	84.978	84.978	84.978	84.978
132.5	93.267	93.267	93.267	93.267	93.267	93.267	93.267
135.0	104.564	104.564	104.564	104.564	104.564	104.564	104.564
137.5	120.160	120.160	120.160	120.160	120.160	120.160	120.160
140.0	141.957	141.957	141.957	141.957	141.957	141.957	141.957
142.5	173.087	173.087	173.087	173.087	173.087	173.087	173.087
145.0	217.417	217.417	217.417	217.417	217.417	217.417	217.417
147.5	282.194	282.194	282.194	282.194	282.194	282.194	282.194
150.0	381.908	381.908	381.908	381.908	381.908	381.908	381.908
152.5	528.286	528.286	528.286	528.286	528.286	528.286	528.286
155.0	728.818	728.818	728.818	728.818	728.818	728.818	728.818
157.5	979.330	979.330	979.330	979.330	979.330	979.330	979.330
160.0	1254.402	1254.402	1254.402	1254.402	1254.402	1254.402	1254.402
162.5	1523.334	1523.334	1523.334	1523.334	1523.334	1523.334	1523.334
165.0	1762.794	1762.794	1762.794	1762.794	1762.794	1762.794	1762.794
167.5	1956.204	1956.204	1956.204	1956.204	1956.204	1956.204	1956.204
170.0	2094.968	2094.968	2094.968	2094.968	2094.968	2094.968	2094.968
172.5	2183.998	2183.998	2183.998	2183.998	2183.998	2183.998	2183.998
175.0	2230.662	2230.662	2230.662	2230.662	2230.662	2230.662	2230.662
177.5	2246.012	2246.012	2246.012	2246.012	2246.012	2246.012	2246.012
180.0	2249.000	2249.000	2249.000	2249.000	2249.000	2249.000	2249.000

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Zone	Lumens	%Lamp	%Fixt
0-20	401.55	N.A.	15.10
0-30	829.93	N.A.	31.20
0-40	1164.3	N.A.	43.70
0-60	1260.71	N.A.	47.40
0-80	1268.15	N.A.	47.60
0-90	1268.63	N.A.	47.70
10-90	1168.22	N.A.	43.90
20-40	762.75	N.A.	28.70
20-50	841.98	N.A.	31.60
40-70	102.49	N.A.	3.90
60-80	7.44	N.A.	0.30
70-80	1.36	N.A.	0.10
80-90	0.48	N.A.	0.00
90-110	28.85	N.A.	1.10
90-120	73.71	N.A.	2.80
90-130	138.17	N.A.	5.20
90-150	365.06	N.A.	13.70
90-180	1393.12	N.A.	52.30
110-180	1364.28	N.A.	51.30
0-180	2661.75	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	100.41
10-20	301.14
20-30	428.38
30-40	334.37
40-50	79.22
50-60	17.19
60-70	6.08
70-80	1.36
80-90	0.48
90-100	6.13
100-110	22.71
110-120	44.86
120-130	64.46
130-140	82.95
140-150	143.95
150-160	341.48
160-170	477.91
170-180	208.67

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	48
1	99	96	93	90	91	89	86	84	75	73	72	62	61	60	51	50	50	44
2	92	86	82	77	85	80	76	73	69	66	63	58	56	54	48	47	45	41
3	86	78	72	68	79	73	68	64	63	59	56	53	51	49	45	43	42	38
4	80	71	65	60	74	66	61	56	58	54	50	49	47	44	42	40	38	35
5	75	65	58	53	69	61	55	51	53	49	45	46	43	40	39	37	35	32
6	70	59	53	48	65	56	50	46	49	45	41	43	39	37	37	34	33	30
7	65	55	48	43	61	52	46	41	45	41	38	40	36	34	34	32	30	28
8	61	50	44	39	57	48	42	38	42	38	34	37	34	31	32	30	28	26
9	57	47	40	36	54	44	38	34	39	35	32	35	31	29	30	28	26	24
10	54	43	37	33	50	41	35	32	37	32	29	33	29	27	29	26	24	23

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-XX-L12-835U-L12-835D-XXX-DIM1-UNV-LW-CSU-OW-CSD-WM_IES

UGR TABLE - CORRECTED

Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size UGR Viewed Crosswise

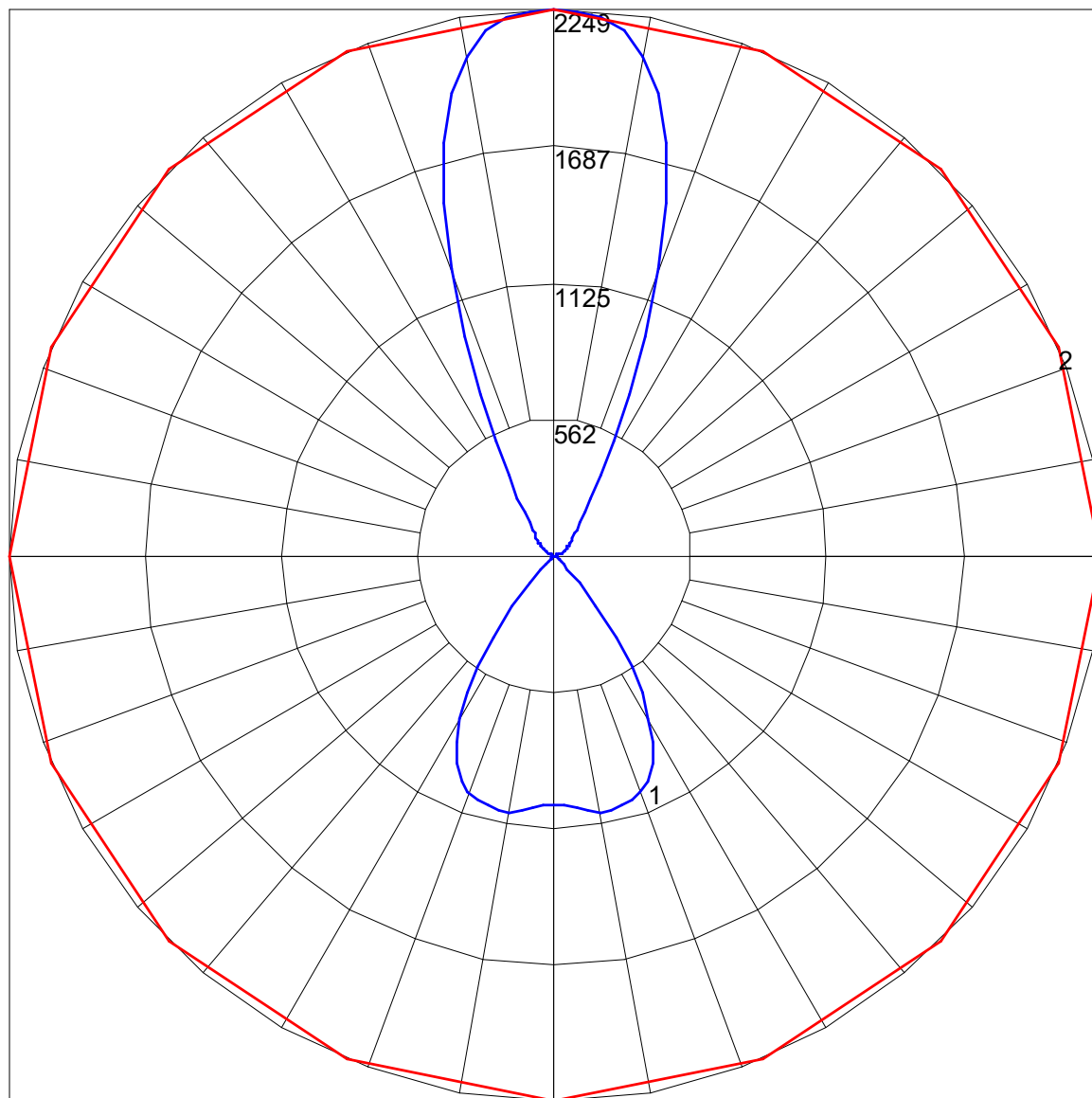
X=2H	Y=2H	3.4	3.4	3.4	3.4	3.4	UGR Viewed Endwise				
	3H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
	4H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
	6H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
	8H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
	12H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
4H	2H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
	3H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
	4H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
	6H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
	8H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
	12H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
8H	4H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
	6H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
	8H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
	12H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
12H	4H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
	6H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
	8H	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4

Maximum UGR = 3.4

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-XX-L12-835U-L12-835D-XXX-DIM1-UNV-LW-CSU-OW-CSD-WM_.IES

POLAR GRAPH



Maximum Candela = 2249 Located At Horizontal Angle = 0, Vertical Angle = 180

1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

2 - Horizontal Cone Through Vertical Angle (180) (Through Max. Cd.)