



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-P7-835U-P7-835D-XXX-POE PR-OW-CSU-OW-CSD-WM.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM 13131414.01  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUEDATE] AUGUST 2022  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836  
 [LUMCAT] 4CRDI-P7-835U-P7-835D-xxx-POE PR-OW-CSU-OW-CSD-WM  
 [LUMINAIRE] 4" RND DIRECT INDIRECT WALL MOUNT LED CYLINDER  
 [MORE] OPEN SPECULAR REFLECTOR TOP & BOTTOM  
 [LAMP] One white LED  
 [ \_SEARCH\_SOURCETYPE] LED  
 [ \_SEARCH\_APPLICATION] Indoor, Decorative, Direct, Indirect  
 [ \_SEARCH\_MOUNTING] Wall

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1286
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	109
Total Luminaire Watts	11.8
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
Luminous Length (0-180)	0.21 ft (Diameter)
Luminous Width (90-270)	0.21 ft (Diameter)
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	19158	19158	19158
55	5453	5453	5453
65	2474	2474	2474
75	767	767	767
85	207	207	207

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## CANDELA TABULATION

	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>
0	572.717	572.717	572.717	572.717	572.717	572.717	572.717	572.717	572.717	572.717
5	578.982	578.982	578.982	578.982	578.982	578.982	578.982	578.982	578.982	578.982
10	598.064	598.064	598.064	598.064	598.064	598.064	598.064	598.064	598.064	598.064
15	594.361	594.361	594.361	594.361	594.361	594.361	594.361	594.361	594.361	594.361
20	580.976	580.976	580.976	580.976	580.976	580.976	580.976	580.976	580.976	580.976
25	529.429	529.429	529.429	529.429	529.429	529.429	529.429	529.429	529.429	529.429
30	431.745	431.745	431.745	431.745	431.745	431.745	431.745	431.745	431.745	431.745
35	310.139	310.139	310.139	310.139	310.139	310.139	310.139	310.139	310.139	310.139
40	148.576	148.576	148.576	148.576	148.576	148.576	148.576	148.576	148.576	148.576
45	42.804	42.804	42.804	42.804	42.804	42.804	42.804	42.804	42.804	42.804
50	18.625	18.625	18.625	18.625	18.625	18.625	18.625	18.625	18.625	18.625
55	9.882	9.882	9.882	9.882	9.882	9.882	9.882	9.882	9.882	9.882
60	5.838	5.838	5.838	5.838	5.838	5.838	5.838	5.838	5.838	5.838
65	3.304	3.304	3.304	3.304	3.304	3.304	3.304	3.304	3.304	3.304
70	1.538	1.538	1.538	1.538	1.538	1.538	1.538	1.538	1.538	1.538
75	0.627	0.627	0.627	0.627	0.627	0.627	0.627	0.627	0.627	0.627
80	0.228	0.228	0.228	0.228	0.228	0.228	0.228	0.228	0.228	0.228
85	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046
100	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185
105	0.510	0.510	0.510	0.510	0.510	0.510	0.510	0.510	0.510	0.510
110	1.251	1.251	1.251	1.251	1.251	1.251	1.251	1.251	1.251	1.251
115	2.687	2.687	2.687	2.687	2.687	2.687	2.687	2.687	2.687	2.687
120	4.748	4.748	4.748	4.748	4.748	4.748	4.748	4.748	4.748	4.748
125	8.038	8.038	8.038	8.038	8.038	8.038	8.038	8.038	8.038	8.038
130	15.149	15.149	15.149	15.149	15.149	15.149	15.149	15.149	15.149	15.149
135	34.815	34.815	34.815	34.815	34.815	34.815	34.815	34.815	34.815	34.815
140	120.843	120.843	120.843	120.843	120.843	120.843	120.843	120.843	120.843	120.843
145	252.249	252.249	252.249	252.249	252.249	252.249	252.249	252.249	252.249	252.249
150	351.157	351.157	351.157	351.157	351.157	351.157	351.157	351.157	351.157	351.157
155	430.607	430.607	430.607	430.607	430.607	430.607	430.607	430.607	430.607	430.607
160	472.533	472.533	472.533	472.533	472.533	472.533	472.533	472.533	472.533	472.533
165	483.420	483.420	483.420	483.420	483.420	483.420	483.420	483.420	483.420	483.420
170	486.431	486.431	486.431	486.431	486.431	486.431	486.431	486.431	486.431	486.431
175	470.912	470.912	470.912	470.912	470.912	470.912	470.912	470.912	470.912	470.912
180	465.816	465.816	465.816	465.816	465.816	465.816	465.816	465.816	465.816	465.816

## Vert. Horizontal Angles

	<u>50</u>	<u>55</u>	<u>60</u>	<u>65</u>	<u>70</u>	<u>75</u>	<u>80</u>	<u>85</u>	<u>90</u>	<u>95</u>
0	572.717	572.717	572.717	572.717	572.717	572.717	572.717	572.717	572.717	572.717
5	578.982	578.982	578.982	578.982	578.982	578.982	578.982	578.982	578.982	578.982
10	598.064	598.064	598.064	598.064	598.064	598.064	598.064	598.064	598.064	598.064
15	594.361	594.361	594.361	594.361	594.361	594.361	594.361	594.361	594.361	594.361
20	580.976	580.976	580.976	580.976	580.976	580.976	580.976	580.976	580.976	580.976
25	529.429	529.429	529.429	529.429	529.429	529.429	529.429	529.429	529.429	529.429
30	431.745	431.745	431.745	431.745	431.745	431.745	431.745	431.745	431.745	431.745
35	310.139	310.139	310.139	310.139	310.139	310.139	310.139	310.139	310.139	310.139
40	148.576	148.576	148.576	148.576	148.576	148.576	148.576	148.576	148.576	148.576
45	42.804	42.804	42.804	42.804	42.804	42.804	42.804	42.804	42.804	42.804
50	18.625	18.625	18.625	18.625	18.625	18.625	18.625	18.625	18.625	18.625
55	9.882	9.882	9.882	9.882	9.882	9.882	9.882	9.882	9.882	9.882
60	5.838	5.838	5.838	5.838	5.838	5.838	5.838	5.838	5.838	5.838

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## CANDELA TABULATION - (Cont.)

65	3.304	3.304	3.304	3.304	3.304	3.304	3.304	3.304	3.304	3.304
70	1.538	1.538	1.538	1.538	1.538	1.538	1.538	1.538	1.538	1.538
75	0.627	0.627	0.627	0.627	0.627	0.627	0.627	0.627	0.627	0.627
80	0.228	0.228	0.228	0.228	0.228	0.228	0.228	0.228	0.228	0.228
85	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046
100	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185
105	0.510	0.510	0.510	0.510	0.510	0.510	0.510	0.510	0.510	0.510
110	1.251	1.251	1.251	1.251	1.251	1.251	1.251	1.251	1.251	1.251
115	2.687	2.687	2.687	2.687	2.687	2.687	2.687	2.687	2.687	2.687
120	4.748	4.748	4.748	4.748	4.748	4.748	4.748	4.748	4.748	4.748
125	8.038	8.038	8.038	8.038	8.038	8.038	8.038	8.038	8.038	8.038
130	15.149	15.149	15.149	15.149	15.149	15.149	15.149	15.149	15.149	15.149
135	34.815	34.815	34.815	34.815	34.815	34.815	34.815	34.815	34.815	34.815
140	120.843	120.843	120.843	120.843	120.843	120.843	120.843	120.843	120.843	120.843
145	252.249	252.249	252.249	252.249	252.249	252.249	252.249	252.249	252.249	252.249
150	351.157	351.157	351.157	351.157	351.157	351.157	351.157	351.157	351.157	351.157
155	430.607	430.607	430.607	430.607	430.607	430.607	430.607	430.607	430.607	430.607
160	472.533	472.533	472.533	472.533	472.533	472.533	472.533	472.533	472.533	472.533
165	483.420	483.420	483.420	483.420	483.420	483.420	483.420	483.420	483.420	483.420
170	486.431	486.431	486.431	486.431	486.431	486.431	486.431	486.431	486.431	486.431
175	470.912	470.912	470.912	470.912	470.912	470.912	470.912	470.912	470.912	470.912
180	465.816	465.816	465.816	465.816	465.816	465.816	465.816	465.816	465.816	465.816

## Vert. Horizontal Angles

	100	105	110	115	120	125	130	135	140	145
0	572.717	572.717	572.717	572.717	572.717	572.717	572.717	572.717	572.717	572.717
5	578.982	578.982	578.982	578.982	578.982	578.982	578.982	578.982	578.982	578.982
10	598.064	598.064	598.064	598.064	598.064	598.064	598.064	598.064	598.064	598.064
15	594.361	594.361	594.361	594.361	594.361	594.361	594.361	594.361	594.361	594.361
20	580.976	580.976	580.976	580.976	580.976	580.976	580.976	580.976	580.976	580.976
25	529.429	529.429	529.429	529.429	529.429	529.429	529.429	529.429	529.429	529.429
30	431.745	431.745	431.745	431.745	431.745	431.745	431.745	431.745	431.745	431.745
35	310.139	310.139	310.139	310.139	310.139	310.139	310.139	310.139	310.139	310.139
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55	9.882	9.882	9.882	9.882	9.882	9.882	9.882	9.882	9.882	9.882
60	5.838	5.838	5.838	5.838	5.838	5.838	5.838	5.838	5.838	5.838
65	3.304	3.304	3.304	3.304	3.304	3.304	3.304	3.304	3.304	3.304
70	1.538	1.538	1.538	1.538	1.538	1.538	1.538	1.538	1.538	1.538
75	0.627	0.627	0.627	0.627	0.627	0.627	0.627	0.627	0.627	0.627
80	0.228	0.228	0.228	0.228	0.228	0.228	0.228	0.228	0.228	0.228
85	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046
100	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185
105	0.510	0.510	0.510	0.510	0.510	0.510	0.510	0.510	0.510	0.510
110	1.251	1.251	1.251	1.251	1.251	1.251	1.251	1.251	1.251	1.251
115	2.687	2.687	2.687	2.687	2.687	2.687	2.687	2.687	2.687	2.687
120	4.748	4.748	4.748	4.748	4.748	4.748	4.748	4.748	4.748	4.748
125	8.038	8.038	8.038	8.038	8.038	8.038	8.038	8.038	8.038	8.038
130	15.149	15.149	15.149	15.149	15.149	15.149	15.149	15.149	15.149	15.149
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## CANDELA TABULATION - (Cont.)

140	120.843	120.843	120.843	120.843	120.843	120.843	120.843	120.843	120.843	120.843
145	252.249	252.249	252.249	252.249	252.249	252.249	252.249	252.249	252.249	252.249
150	351.157	351.157	351.157	351.157	351.157	351.157	351.157	351.157	351.157	351.157
155	430.607	430.607	430.607	430.607	430.607	430.607	430.607	430.607	430.607	430.607
160	472.533	472.533	472.533	472.533	472.533	472.533	472.533	472.533	472.533	472.533
165	483.420	483.420	483.420	483.420	483.420	483.420	483.420	483.420	483.420	483.420
170	486.431	486.431	486.431	486.431	486.431	486.431	486.431	486.431	486.431	486.431
175	470.912	470.912	470.912	470.912	470.912	470.912	470.912	470.912	470.912	470.912
180	465.816	465.816	465.816	465.816	465.816	465.816	465.816	465.816	465.816	465.816

## Vert. Angles

## Horizontal Angles

	<u>150</u>	<u>155</u>	<u>160</u>	<u>165</u>	<u>170</u>	<u>175</u>	<u>180</u>
0	572.717	572.717	572.717	572.717	572.717	572.717	572.717
5	578.982	578.982	578.982	578.982	578.982	578.982	578.982
10	598.064	598.064	598.064	598.064	598.064	598.064	598.064
15	594.361	594.361	594.361	594.361	594.361	594.361	594.361
20	580.976	580.976	580.976	580.976	580.976	580.976	580.976
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50	18.625	18.625	18.625	18.625	18.625	18.625	18.625
55	9.882	9.882	9.882	9.882	9.882	9.882	9.882
60	5.838	5.838	5.838	5.838	5.838	5.838	5.838
65	3.304	3.304	3.304	3.304	3.304	3.304	3.304
70	1.538	1.538	1.538	1.538	1.538	1.538	1.538
75	0.627	0.627	0.627	0.627	0.627	0.627	0.627
80	0.228	0.228	0.228	0.228	0.228	0.228	0.228
85	0.057	0.057	0.057	0.057	0.057	0.057	0.057
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	0.046	0.046	0.046	0.046	0.046	0.046	0.046
100	0.185	0.185	0.185	0.185	0.185	0.185	0.185
105	0.510	0.510	0.510	0.510	0.510	0.510	0.510
110	1.251	1.251	1.251	1.251	1.251	1.251	1.251
115	2.687	2.687	2.687	2.687	2.687	2.687	2.687
120	4.748	4.748	4.748	4.748	4.748	4.748	4.748
125	8.038	8.038	8.038	8.038	8.038	8.038	8.038
130	15.149	15.149	15.149	15.149	15.149	15.149	15.149
135	34.815	34.815	34.815	34.815	34.815	34.815	34.815
140	120.843	120.843	120.843	120.843	120.843	120.843	120.843
145	252.249	252.249	252.249	252.249	252.249	252.249	252.249
150	351.157	351.157	351.157	351.157	351.157	351.157	351.157
155	430.607	430.607	430.607	430.607	430.607	430.607	430.607
160	472.533	472.533	472.533	472.533	472.533	472.533	472.533
165	483.420	483.420	483.420	483.420	483.420	483.420	483.420
170	486.431	486.431	486.431	486.431	486.431	486.431	486.431
175	470.912	470.912	470.912	470.912	470.912	470.912	470.912
180	465.816	465.816	465.816	465.816	465.816	465.816	465.816

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CRDI-P7-835U-P7-835D-XXX-POE PR-OW-CSU-OW-CSD-WM.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	223.47	N.A.	17.40
0-30	461.57	N.A.	35.90
0-40	647.35	N.A.	50.30
0-60	705.03	N.A.	54.80
0-80	709.28	N.A.	55.10
0-90	709.37	N.A.	55.10
10-90	653.49	N.A.	50.80
20-40	423.88	N.A.	33.00
20-50	471.73	N.A.	36.70
40-70	61.13	N.A.	4.80
60-80	4.24	N.A.	0.30
70-80	0.79	N.A.	0.10
80-90	0.09	N.A.	0.00
90-110	0.72	N.A.	0.10
90-120	3.53	N.A.	0.30
90-130	11.52	N.A.	0.90
90-150	201.54	N.A.	15.70
90-180	576.96	N.A.	44.90
110-180	576.24	N.A.	44.80
0-180	1286.33	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	55.87
10-20	167.60
20-30	238.10
30-40	185.78
40-50	47.85
50-60	9.83
60-70	3.45
70-80	0.79
80-90	0.09
90-100	0.08
100-110	0.65
110-120	2.80
120-130	8.00
130-140	38.92
140-150	151.10
150-160	193.66
160-170	136.31
170-180	45.45

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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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	101	98	95	92	94	91	89	87	79	77	76	68	67	66	58	57	56	51
2	95	89	84	80	88	83	79	76	73	70	67	63	61	59	54	53	51	47
3	88	81	75	70	82	76	71	67	67	63	60	58	56	54	51	49	47	44
4	82	74	67	62	77	69	64	59	62	57	54	54	51	49	47	45	44	40
5	77	67	61	56	72	64	58	53	57	52	49	50	47	44	44	42	40	37
6	72	62	55	50	67	59	53	48	53	48	45	47	43	41	42	39	37	35
7	67	57	50	46	63	54	48	44	49	44	41	44	40	38	39	36	34	32
8	63	53	46	42	60	50	44	40	45	41	37	41	37	35	37	34	32	30
9	60	49	43	38	56	47	41	37	42	38	34	38	35	32	35	32	30	28
10	56	46	39	35	53	44	38	34	40	35	32	36	32	30	33	30	28	26

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-P7-835U-P7-835D-XXX-POE PR-OW-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

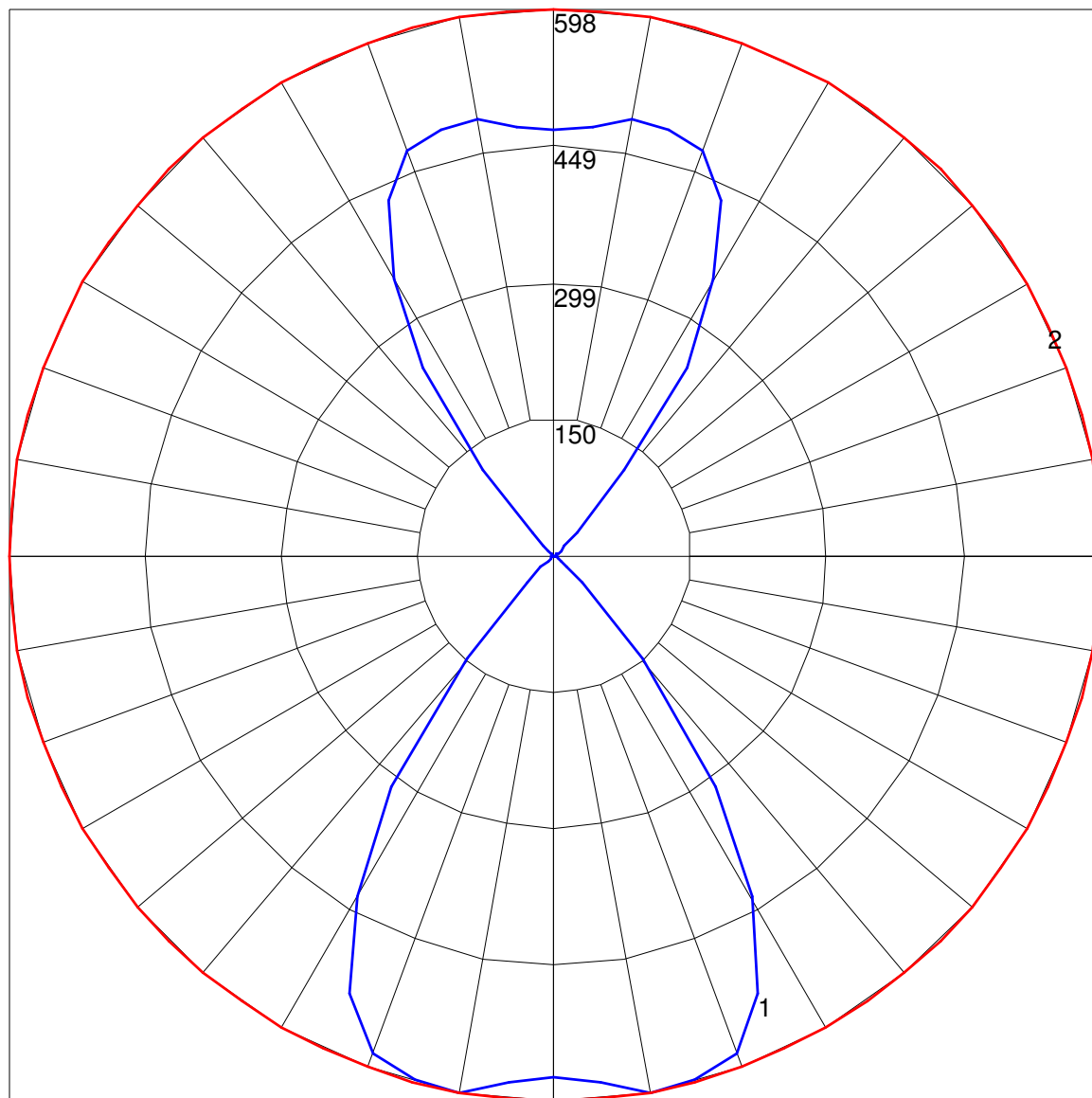
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	4.2	4.8	5.1	5.8	7.0	4.2	4.8	5.1	5.8	7.0
	3H	4.4	5.0	5.4	5.9	7.2	4.4	5.0	5.4	5.9	7.2
	4H	4.3	4.9	5.3	5.9	7.1	4.3	4.9	5.3	5.9	7.1
	6H	4.3	4.8	5.3	5.7	7.0	4.3	4.8	5.3	5.7	7.0
	8H	4.2	4.7	5.2	5.7	6.9	4.2	4.7	5.2	5.7	6.9
	12H	4.1	4.6	5.1	5.6	6.9	4.1	4.6	5.1	5.6	6.9
4H	2H	4.1	4.7	5.1	5.7	6.9	4.1	4.7	5.1	5.7	6.9
	3H	4.4	4.9	5.4	5.9	7.2	4.4	4.9	5.4	5.9	7.2
	4H	4.4	4.8	5.4	5.8	7.1	4.4	4.8	5.4	5.8	7.1
	6H	4.3	4.7	5.4	5.7	7.0	4.3	4.7	5.4	5.7	7.0
	8H	4.3	4.6	5.3	5.6	6.9	4.3	4.6	5.3	5.6	6.9
	12H	4.2	4.5	5.3	5.5	6.8	4.2	4.5	5.3	5.5	6.8
8H	4H	4.3	4.6	5.3	5.6	6.9	4.3	4.6	5.3	5.6	6.9
	6H	4.2	4.5	5.2	5.5	6.8	4.2	4.5	5.2	5.5	6.8
	8H	4.2	4.4	5.2	5.4	6.7	4.2	4.4	5.2	5.4	6.7
	12H	4.1	4.3	5.1	5.3	6.7	4.1	4.3	5.1	5.3	6.7
12H	4H	4.2	4.5	5.2	5.5	6.8	4.2	4.5	5.2	5.5	6.8
	6H	4.2	4.4	5.2	5.4	6.7	4.2	4.4	5.2	5.4	6.7
	8H	4.1	4.3	5.1	5.3	6.7	4.1	4.3	5.1	5.3	6.7

Maximum UGR = 7.2

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-P7-835U-P7-835D-XXX-POE PR-OW-CSU-OW-CSD-WM.IES

## POLAR GRAPH



Maximum Candela = 598.064 Located At Horizontal Angle = 0, Vertical Angle = 10

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

# 2 - Horizontal Cone Through Vertical Angle (10) (Through Max. Cd.)