



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-P16-8TWU-P16-8TWD-XXX-POE PR-OW-CSU-OW-CSD-WM_3500K.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 20687.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] AUGUST 2022
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 8" RND DIRECT INDIRECT WALL MOUNT LED CYLINDER
 [MORE] OPEN SEMI-SPEC SPUN ALUMINUM REFLECTOR TOP & BOTTOM
 [LUMCAT] 8CRDI-TL-P16-8TWU-P16-8TWD-xxx-POE PR-OW-CSU-OW-CSD-WM_3500k
 [LAMPCAT] V13 BXRE-35E2000
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Architectural, Classroom, Commercial, Healthcare, Office, Downlight
 [_SEARCH_MOUNTING] WALL

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2540
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	103
Total Luminaire Watts	24.6
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)	0.48 ft (Diameter)
Luminous Width (90-270)	0.48 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	2462	2462	2462
55	858	858	858
65	179	179	179
75	0	0	0
85	0	0	0

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PHOTOMETRIC FILENAME : 8CRDI-TL-P16-8TWU-P16-8TWD-XXX-POE PR-OW-CSU-OW-CSD-WM_3500K.IES

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	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156
5	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188
10	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005
15	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102
20	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925
25	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716
30	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524
35	382.975	382.975	382.975	382.975	382.975	382.975	382.975	382.975	382.975	382.975
40	52.627	52.627	52.627	52.627	52.627	52.627	52.627	52.627	52.627	52.627
45	29.167	29.167	29.167	29.167	29.167	29.167	29.167	29.167	29.167	29.167
50	17.120	17.120	17.120	17.120	17.120	17.120	17.120	17.120	17.120	17.120
55	8.243	8.243	8.243	8.243	8.243	8.243	8.243	8.243	8.243	8.243
60	4.438	4.438	4.438	4.438	4.438	4.438	4.438	4.438	4.438	4.438
65	1.268	1.268	1.268	1.268	1.268	1.268	1.268	1.268	1.268	1.268
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
80	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
85	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574
115	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574
120	2.871	2.871	2.871	2.871	2.871	2.871	2.871	2.871	2.871	2.871
125	6.316	6.316	6.316	6.316	6.316	6.316	6.316	6.316	6.316	6.316
130	13.207	13.207	13.207	13.207	13.207	13.207	13.207	13.207	13.207	13.207
135	25.265	25.265	25.265	25.265	25.265	25.265	25.265	25.265	25.265	25.265
140	45.936	45.936	45.936	45.936	45.936	45.936	45.936	45.936	45.936	45.936
145	176.281	176.281	176.281	176.281	176.281	176.281	176.281	176.281	176.281	176.281
150	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712
155	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053
160	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399
165	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443
170	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475
175	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320
180	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313

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	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156
5	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188
10	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005
15	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102
20	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925
25	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716
30	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524
35	382.975	382.975	382.975	382.975	382.975	382.975	382.975	382.975	382.975	382.975
40	52.627	52.627	52.627	52.627	52.627	52.627	52.627	52.627	52.627	52.627
45	29.167	29.167	29.167	29.167	29.167	29.167	29.167	29.167	29.167	29.167
50	17.120	17.120	17.120	17.120	17.120	17.120	17.120	17.120	17.120	17.120
55	8.243	8.243	8.243	8.243	8.243	8.243	8.243	8.243	8.243	8.243
60	4.438	4.438	4.438	4.438	4.438	4.438	4.438	4.438	4.438	4.438

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PHOTOMETRIC FILENAME : 8CRDI-TL-P16-8TWU-P16-8TWD-XXX-POE PR-OW-CSU-OW-CSD-WM_3500K.IES

CANDELA TABULATION - (Cont.)

65	1.268	1.268	1.268	1.268	1.268	1.268	1.268	1.268	1.268	1.268
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
80	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
85	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574
115	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574
120	2.871	2.871	2.871	2.871	2.871	2.871	2.871	2.871	2.871	2.871
125	6.316	6.316	6.316	6.316	6.316	6.316	6.316	6.316	6.316	6.316
130	13.207	13.207	13.207	13.207	13.207	13.207	13.207	13.207	13.207	13.207
135	25.265	25.265	25.265	25.265	25.265	25.265	25.265	25.265	25.265	25.265
140	45.936	45.936	45.936	45.936	45.936	45.936	45.936	45.936	45.936	45.936
145	176.281	176.281	176.281	176.281	176.281	176.281	176.281	176.281	176.281	176.281
150	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712
155	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053
160	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399
165	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443
170	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475
175	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320
180	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313

Vert. Horizontal Angles

	100	105	110	115	120	125	130	135	140	145
0	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156
5	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188
10	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005
15	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102
20	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925
25	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716
30	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524
35	382.975	382.975	382.975	382.975	382.975	382.975	382.975	382.975	382.975	382.975
40	52.627	52.627	52.627	52.627	52.627	52.627	52.627	52.627	52.627	52.627
45	29.167	29.167	29.167	29.167	29.167	29.167	29.167	29.167	29.167	29.167
50	17.120	17.120	17.120	17.120	17.120	17.120	17.120	17.120	17.120	17.120
55	8.243	8.243	8.243	8.243	8.243	8.243	8.243	8.243	8.243	8.243
60	4.438	4.438	4.438	4.438	4.438	4.438	4.438	4.438	4.438	4.438
65	1.268	1.268	1.268	1.268	1.268	1.268	1.268	1.268	1.268	1.268
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
80	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
85	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574
115	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574	0.574
120	2.871	2.871	2.871	2.871	2.871	2.871	2.871	2.871	2.871	2.871
125	6.316	6.316	6.316	6.316	6.316	6.316	6.316	6.316	6.316	6.316
130	13.207	13.207	13.207	13.207	13.207	13.207	13.207	13.207	13.207	13.207
135	25.265	25.265	25.265	25.265	25.265	25.265	25.265	25.265	25.265	25.265

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PHOTOMETRIC FILENAME : 8CRDI-TL-P16-8TWU-P16-8TWD-XXX-POE PR-OW-CSU-OW-CSD-WM_3500K.IES

CANDELA TABULATION - (Cont.)

140	45.936	45.936	45.936	45.936	45.936	45.936	45.936	45.936	45.936	45.936
145	176.281	176.281	176.281	176.281	176.281	176.281	176.281	176.281	176.281	176.281
150	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712
155	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053
160	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399
165	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443
170	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475
175	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320
180	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313

Vert. Horizontal Angles

Angles	150	155	160	165	170	175	180
0	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156	1060.156
5	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188	1001.188
10	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005	1102.005
15	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102	1100.102
20	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925	1148.925
25	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716	1256.716
30	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524	1234.524
35	382.975	382.975	382.975	382.975	382.975	382.975	382.975
40	52.627	52.627	52.627	52.627	52.627	52.627	52.627
45	29.167	29.167	29.167	29.167	29.167	29.167	29.167
50	17.120	17.120	17.120	17.120	17.120	17.120	17.120
55	8.243	8.243	8.243	8.243	8.243	8.243	8.243
60	4.438	4.438	4.438	4.438	4.438	4.438	4.438
65	1.268	1.268	1.268	1.268	1.268	1.268	1.268
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000	0.000	0.000
80	0.000	0.000	0.000	0.000	0.000	0.000	0.000
85	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	0.574	0.574	0.574	0.574	0.574	0.574	0.574
115	0.574	0.574	0.574	0.574	0.574	0.574	0.574
120	2.871	2.871	2.871	2.871	2.871	2.871	2.871
125	6.316	6.316	6.316	6.316	6.316	6.316	6.316
130	13.207	13.207	13.207	13.207	13.207	13.207	13.207
135	25.265	25.265	25.265	25.265	25.265	25.265	25.265
140	45.936	45.936	45.936	45.936	45.936	45.936	45.936
145	176.281	176.281	176.281	176.281	176.281	176.281	176.281
150	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712	1003.712
155	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053	1281.053
160	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399	1175.399
165	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443	1125.443
170	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475	1102.475
175	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320	1070.320
180	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313	1039.313

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 8CRDI-TL-P16-8TWU-P16-8TWD-XXX-POE PR-OW-CSU-OW-CSD-WM_3500K.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	415.86	N.A.	16.40
0-30	983.44	N.A.	38.70
0-40	1294.3	N.A.	51.00
0-60	1327.24	N.A.	52.30
0-80	1328.95	N.A.	52.30
0-90	1328.95	N.A.	52.30
10-90	1229.07	N.A.	48.40
20-40	878.44	N.A.	34.60
20-50	902.94	N.A.	35.60
40-70	34.65	N.A.	1.40
60-80	1.71	N.A.	0.10
70-80	0.00	N.A.	0.00
80-90	0.00	N.A.	0.00
90-110	0.15	N.A.	0.00
90-120	1.28	N.A.	0.10
90-130	7.65	N.A.	0.30
90-150	239.44	N.A.	9.40
90-180	1210.94	N.A.	47.70
110-180	1210.79	N.A.	47.70
0-180	2539.9	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	99.88
10-20	315.98
20-30	567.58
30-40	310.86
40-50	24.50
50-60	8.45
60-70	1.71
70-80	0.00
80-90	0.00
90-100	0.00
100-110	0.15
110-120	1.13
120-130	6.37
130-140	20.96
140-150	210.84
150-160	546.78
160-170	321.78
170-180	102.95

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-P16-8TWU-P16-8TWD-XXX-POE PR-OW-CSU-OW-CSD-WM_3500K.IES

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	101	97	94	92	93	91	88	86	78	76	74	66	65	64	55	55	54	49
2	94	88	84	80	87	82	78	75	72	69	66	61	59	58	52	51	50	46
3	88	80	75	70	82	75	70	66	66	62	59	57	55	53	49	47	46	42
4	82	73	67	62	76	69	64	59	61	57	54	53	50	48	46	44	43	39
5	77	67	61	56	72	64	58	53	56	52	49	50	46	44	43	41	39	37
6	72	62	55	51	67	59	53	48	52	48	44	46	43	40	41	38	37	34
7	67	57	51	46	63	54	48	44	49	44	41	43	40	37	38	36	34	32
8	63	53	46	42	59	50	45	40	45	41	38	41	37	35	36	34	32	30
9	60	49	43	39	56	47	41	37	42	38	35	38	35	32	34	31	30	28
10	56	46	40	36	53	44	38	34	40	35	32	36	32	30	32	30	28	26

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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	3.2	3.2	3.2	3.2	3.2	UGR Viewed Endwise				
	3H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	4H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	6H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	8H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	12H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2

4H	2H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	3H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	4H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	6H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	8H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	12H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2

8H	4H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	6H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	8H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	12H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2

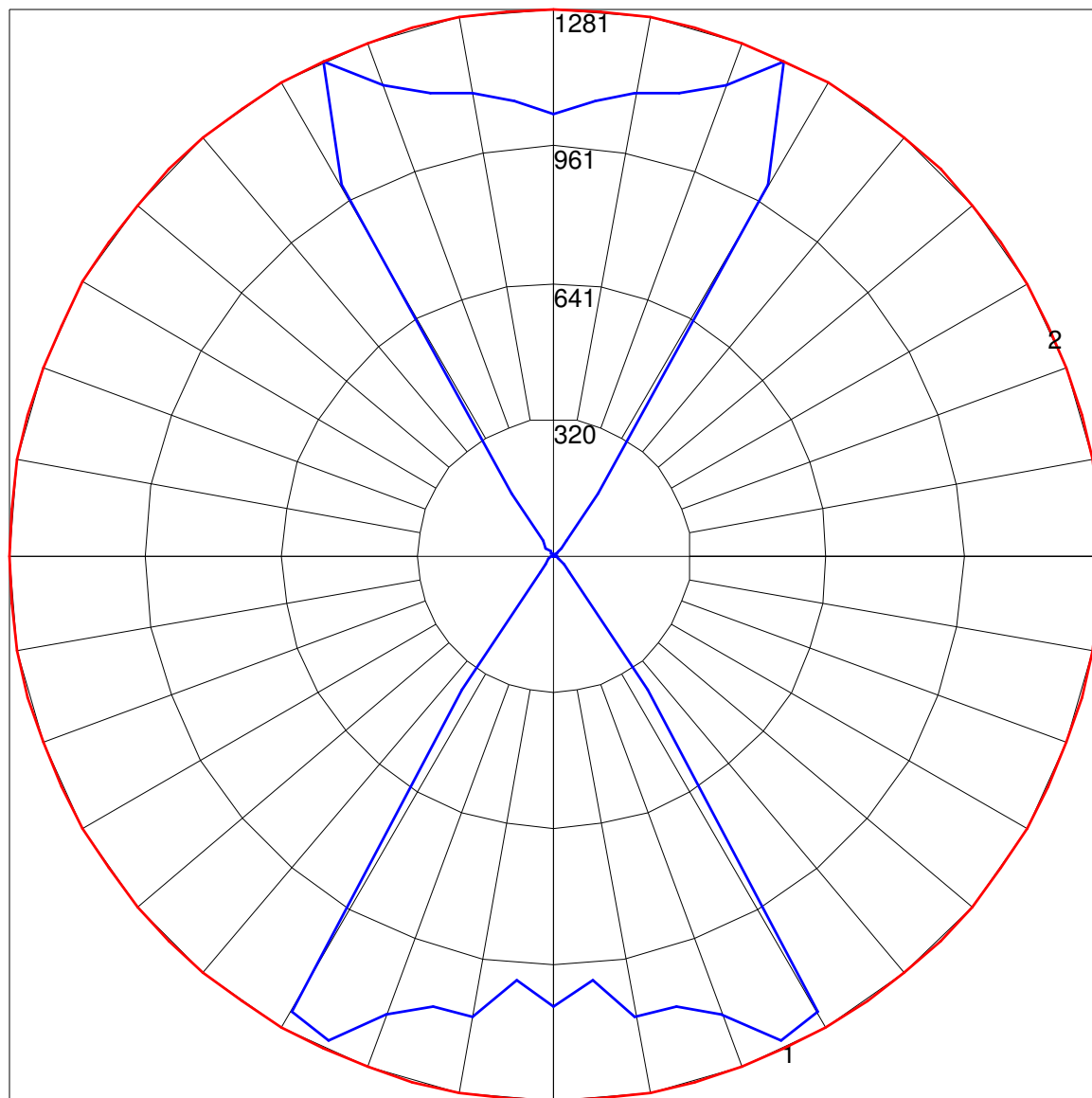
12H	4H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	6H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	8H	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2

Maximum UGR = 3.2

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POLAR GRAPH



Maximum Candela = 1281.053 Located At Horizontal Angle = 0, Vertical Angle = 155

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

2 - Horizontal Cone Through Vertical Angle (155) (Through Max. Cd.)