



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-8TWU-L20-8TWD-XXX-DALI-UNV-OM-CSU-RW-WHD-WM 4000K_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.04

[TESTLAB]

[ISSUE DATE] 23-FEB-2021

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.

[LUMCAT] 8CRDI-TL-L20-8TWU-L20-8TWD-xxx-DIM1-UNV-OM-CSU-RW-WHD-WM 4000k

[LUMINAIRE] White formed aluminum housing, specular reflector, cover glass

[MORE]

[LAMP] One white LED

[SEARCH_SOURCETYPE] LED

[SEARCH_APPLICATION] INDOOR, DIRECT, INDIRECT

[SEARCH_MOUNTING] WALL

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3984
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	83
Total Luminaire Watts	48
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)	0.50 ft (Diameter)
Luminous Width (90-270)	0.50 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	23546	23546	23546
55	19637	19637	19637
65	13854	13854	13854
75	8486	8486	8486
85	6692	6692	6692

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-8TWU-L20-8TWD-XXX-DALI-UNV-OM-CSU-RW-WHD-WM 4000K_.IES

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	1405.606	1405.606	1405.606	1405.606	1405.606	1405.606	1405.606	1405.606	1405.606	1405.606
2.5	1395.087	1395.087	1395.087	1395.087	1395.087	1395.087	1395.087	1395.087	1395.087	1395.087
5.0	1371.419	1371.419	1371.419	1371.419	1371.419	1371.419	1371.419	1371.419	1371.419	1371.419
7.5	1345.121	1345.121	1345.121	1345.121	1345.121	1345.121	1345.121	1345.121	1345.121	1345.121
10.0	1316.194	1316.194	1316.194	1316.194	1316.194	1316.194	1316.194	1316.194	1316.194	1316.194
12.5	1284.637	1284.637	1284.637	1284.637	1284.637	1284.637	1284.637	1284.637	1284.637	1284.637
15.0	1253.080	1253.080	1253.080	1253.080	1253.080	1253.080	1253.080	1253.080	1253.080	1253.080
17.5	1224.547	1224.547	1224.547	1224.547	1224.547	1224.547	1224.547	1224.547	1224.547	1224.547
20.0	1198.907	1198.907	1198.907	1198.907	1198.907	1198.907	1198.907	1198.907	1198.907	1198.907
22.5	1161.959	1161.959	1161.959	1161.959	1161.959	1161.959	1161.959	1161.959	1161.959	1161.959
25.0	1099.765	1099.765	1099.765	1099.765	1099.765	1099.765	1099.765	1099.765	1099.765	1099.765
27.5	1001.938	1001.938	1001.938	1001.938	1001.938	1001.938	1001.938	1001.938	1001.938	1001.938
30.0	860.983	860.983	860.983	860.983	860.983	860.983	860.983	860.983	860.983	860.983
32.5	682.685	682.685	682.685	682.685	682.685	682.685	682.685	682.685	682.685	682.685
35.0	518.325	518.325	518.325	518.325	518.325	518.325	518.325	518.325	518.325	518.325
37.5	414.976	414.976	414.976	414.976	414.976	414.976	414.976	414.976	414.976	414.976
40.0	361.460	361.460	361.460	361.460	361.460	361.460	361.460	361.460	361.460	361.460
42.5	328.720	328.720	328.720	328.720	328.720	328.720	328.720	328.720	328.720	328.720
45.0	304.000	304.000	304.000	304.000	304.000	304.000	304.000	304.000	304.000	304.000
47.5	281.253	281.253	281.253	281.253	281.253	281.253	281.253	281.253	281.253	281.253
50.0	257.848	257.848	257.848	257.848	257.848	257.848	257.848	257.848	257.848	257.848
52.5	232.208	232.208	232.208	232.208	232.208	232.208	232.208	232.208	232.208	232.208
55.0	205.647	205.647	205.647	205.647	205.647	205.647	205.647	205.647	205.647	205.647
57.5	178.561	178.561	178.561	178.561	178.561	178.561	178.561	178.561	178.561	178.561
60.0	153.052	153.052	153.052	153.052	153.052	153.052	153.052	153.052	153.052	153.052
62.5	129.121	129.121	129.121	129.121	129.121	129.121	129.121	129.121	129.121	129.121
65.0	106.900	106.900	106.900	106.900	106.900	106.900	106.900	106.900	106.900	106.900
67.5	86.519	86.519	86.519	86.519	86.519	86.519	86.519	86.519	86.519	86.519
70.0	68.242	68.242	68.242	68.242	68.242	68.242	68.242	68.242	68.242	68.242
72.5	52.332	52.332	52.332	52.332	52.332	52.332	52.332	52.332	52.332	52.332
75.0	40.104	40.104	40.104	40.104	40.104	40.104	40.104	40.104	40.104	40.104
77.5	31.294	31.294	31.294	31.294	31.294	31.294	31.294	31.294	31.294	31.294
80.0	23.799	23.799	23.799	23.799	23.799	23.799	23.799	23.799	23.799	23.799
82.5	16.831	16.831	16.831	16.831	16.831	16.831	16.831	16.831	16.831	16.831
85.0	10.650	10.650	10.650	10.650	10.650	10.650	10.650	10.650	10.650	10.650
87.5	4.865	4.865	4.865	4.865	4.865	4.865	4.865	4.865	4.865	4.865
90.0	1.419	1.419	1.419	1.419	1.419	1.419	1.419	1.419	1.419	1.419
92.5	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209
95.0	0.314	0.314	0.314	0.314	0.314	0.314	0.314	0.314	0.314	0.314
97.5	0.418	0.418	0.418	0.418	0.418	0.418	0.418	0.418	0.418	0.418
100.0	0.628	0.628	0.628	0.628	0.628	0.628	0.628	0.628	0.628	0.628
102.5	0.837	0.837	0.837	0.837	0.837	0.837	0.837	0.837	0.837	0.837
105.0	1.151	1.151	1.151	1.151	1.151	1.151	1.151	1.151	1.151	1.151
107.5	1.674	1.674	1.674	1.674	1.674	1.674	1.674	1.674	1.674	1.674
110.0	2.301	2.301	2.301	2.301	2.301	2.301	2.301	2.301	2.301	2.301
112.5	3.034	3.034	3.034	3.034	3.034	3.034	3.034	3.034	3.034	3.034
115.0	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185
117.5	5.649	5.649	5.649	5.649	5.649	5.649	5.649	5.649	5.649	5.649
120.0	7.637	7.637	7.637	7.637	7.637	7.637	7.637	7.637	7.637	7.637
122.5	10.462	10.462	10.462	10.462	10.462	10.462	10.462	10.462	10.462	10.462
125.0	14.437	14.437	14.437	14.437	14.437	14.437	14.437	14.437	14.437	14.437
127.5	20.295	20.295	20.295	20.295	20.295	20.295	20.295	20.295	20.295	20.295
130.0	28.038	28.038	28.038	28.038	28.038	28.038	28.038	28.038	28.038	28.038
132.5	37.453	37.453	37.453	37.453	37.453	37.453	37.453	37.453	37.453	37.453

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-8TWU-L20-8TWD-XXX-DALI-UNV-OM-CSU-RW-WHD-WM 4000K_.IES

CANDELA TABULATION - (Cont.)

135.0	48.333	48.333	48.333	48.333	48.333	48.333	48.333	48.333	48.333	48.333
137.5	68.314	68.314	68.314	68.314	68.314	68.314	68.314	68.314	68.314	68.314
140.0	121.147	121.147	121.147	121.147	121.147	121.147	121.147	121.147	121.147	121.147
142.5	180.464	180.464	180.464	180.464	180.464	180.464	180.464	180.464	180.464	180.464
145.0	413.760	413.760	413.760	413.760	413.760	413.760	413.760	413.760	413.760	413.760
147.5	744.034	744.034	744.034	744.034	744.034	744.034	744.034	744.034	744.034	744.034
150.0	1049.306	1049.306	1049.306	1049.306	1049.306	1049.306	1049.306	1049.306	1049.306	1049.306
152.5	1231.340	1231.340	1231.340	1231.340	1231.340	1231.340	1231.340	1231.340	1231.340	1231.340
155.0	1477.189	1477.189	1477.189	1477.189	1477.189	1477.189	1477.189	1477.189	1477.189	1477.189
157.5	1753.377	1753.377	1753.377	1753.377	1753.377	1753.377	1753.377	1753.377	1753.377	1753.377
160.0	2000.273	2000.273	2000.273	2000.273	2000.273	2000.273	2000.273	2000.273	2000.273	2000.273
162.5	2203.229	2203.229	2203.229	2203.229	2203.229	2203.229	2203.229	2203.229	2203.229	2203.229
165.0	2432.340	2432.340	2432.340	2432.340	2432.340	2432.340	2432.340	2432.340	2432.340	2432.340
167.5	2724.221	2724.221	2724.221	2724.221	2724.221	2724.221	2724.221	2724.221	2724.221	2724.221
170.0	3131.180	3131.180	3131.180	3131.180	3131.180	3131.180	3131.180	3131.180	3131.180	3131.180
172.5	3736.912	3736.912	3736.912	3736.912	3736.912	3736.912	3736.912	3736.912	3736.912	3736.912
175.0	4155.380	4155.380	4155.380	4155.380	4155.380	4155.380	4155.380	4155.380	4155.380	4155.380
177.5	4249.534	4249.534	4249.534	4249.534	4249.534	4249.534	4249.534	4249.534	4249.534	4249.534
180.0	4197.303	4197.303	4197.303	4197.303	4197.303	4197.303	4197.303	4197.303	4197.303	4197.303

Vert. 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	1405.606	1405.606	1405.606	1405.606	1405.606	1405.606	1405.606
2.5	1395.087	1395.087	1395.087	1395.087	1395.087	1395.087	1395.087
5.0	1371.419	1371.419	1371.419	1371.419	1371.419	1371.419	1371.419
7.5	1345.121	1345.121	1345.121	1345.121	1345.121	1345.121	1345.121
10.0	1316.194	1316.194	1316.194	1316.194	1316.194	1316.194	1316.194
12.5	1284.637	1284.637	1284.637	1284.637	1284.637	1284.637	1284.637
15.0	1253.080	1253.080	1253.080	1253.080	1253.080	1253.080	1253.080
17.5	1224.547	1224.547	1224.547	1224.547	1224.547	1224.547	1224.547
20.0	1198.907	1198.907	1198.907	1198.907	1198.907	1198.907	1198.907
22.5	1161.959	1161.959	1161.959	1161.959	1161.959	1161.959	1161.959
25.0	1099.765	1099.765	1099.765	1099.765	1099.765	1099.765	1099.765
27.5	1001.938	1001.938	1001.938	1001.938	1001.938	1001.938	1001.938
30.0	860.983	860.983	860.983	860.983	860.983	860.983	860.983
32.5	682.685	682.685	682.685	682.685	682.685	682.685	682.685
35.0	518.325	518.325	518.325	518.325	518.325	518.325	518.325
37.5	414.976	414.976	414.976	414.976	414.976	414.976	414.976
40.0	361.460	361.460	361.460	361.460	361.460	361.460	361.460
42.5	328.720	328.720	328.720	328.720	328.720	328.720	328.720
45.0	304.000	304.000	304.000	304.000	304.000	304.000	304.000
47.5	281.253	281.253	281.253	281.253	281.253	281.253	281.253
50.0	257.848	257.848	257.848	257.848	257.848	257.848	257.848
52.5	232.208	232.208	232.208	232.208	232.208	232.208	232.208
55.0	205.647	205.647	205.647	205.647	205.647	205.647	205.647
57.5	178.561	178.561	178.561	178.561	178.561	178.561	178.561
60.0	153.052	153.052	153.052	153.052	153.052	153.052	153.052
62.5	129.121	129.121	129.121	129.121	129.121	129.121	129.121
65.0	106.900	106.900	106.900	106.900	106.900	106.900	106.900
67.5	86.519	86.519	86.519	86.519	86.519	86.519	86.519
70.0	68.242	68.242	68.242	68.242	68.242	68.242	68.242
72.5	52.332	52.332	52.332	52.332	52.332	52.332	52.332
75.0	40.104	40.104	40.104	40.104	40.104	40.104	40.104
77.5	31.294	31.294	31.294	31.294	31.294	31.294	31.294
80.0	23.799	23.799	23.799	23.799	23.799	23.799	23.799

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 8CRDI-TL-L20-8TWU-L20-8TWD-XXX-DALI-UNV-OM-CSU-RW-WHD-WM 4000K_.IES****CANDELA TABULATION - (Cont.)**

82.5	16.831	16.831	16.831	16.831	16.831	16.831	16.831
85.0	10.650	10.650	10.650	10.650	10.650	10.650	10.650
87.5	4.865	4.865	4.865	4.865	4.865	4.865	4.865
90.0	1.419	1.419	1.419	1.419	1.419	1.419	1.419
92.5	0.209	0.209	0.209	0.209	0.209	0.209	0.209
95.0	0.314	0.314	0.314	0.314	0.314	0.314	0.314
97.5	0.418	0.418	0.418	0.418	0.418	0.418	0.418
100.0	0.628	0.628	0.628	0.628	0.628	0.628	0.628
102.5	0.837	0.837	0.837	0.837	0.837	0.837	0.837
105.0	1.151	1.151	1.151	1.151	1.151	1.151	1.151
107.5	1.674	1.674	1.674	1.674	1.674	1.674	1.674
110.0	2.301	2.301	2.301	2.301	2.301	2.301	2.301
112.5	3.034	3.034	3.034	3.034	3.034	3.034	3.034
115.0	4.185	4.185	4.185	4.185	4.185	4.185	4.185
117.5	5.649	5.649	5.649	5.649	5.649	5.649	5.649
120.0	7.637	7.637	7.637	7.637	7.637	7.637	7.637
122.5	10.462	10.462	10.462	10.462	10.462	10.462	10.462
125.0	14.437	14.437	14.437	14.437	14.437	14.437	14.437
127.5	20.295	20.295	20.295	20.295	20.295	20.295	20.295
130.0	28.038	28.038	28.038	28.038	28.038	28.038	28.038
132.5	37.453	37.453	37.453	37.453	37.453	37.453	37.453
135.0	48.333	48.333	48.333	48.333	48.333	48.333	48.333
137.5	68.314	68.314	68.314	68.314	68.314	68.314	68.314
140.0	121.147	121.147	121.147	121.147	121.147	121.147	121.147
142.5	180.464	180.464	180.464	180.464	180.464	180.464	180.464
145.0	413.760	413.760	413.760	413.760	413.760	413.760	413.760
147.5	744.034	744.034	744.034	744.034	744.034	744.034	744.034
150.0	1049.306	1049.306	1049.306	1049.306	1049.306	1049.306	1049.306
152.5	1231.340	1231.340	1231.340	1231.340	1231.340	1231.340	1231.340
155.0	1477.189	1477.189	1477.189	1477.189	1477.189	1477.189	1477.189
157.5	1753.377	1753.377	1753.377	1753.377	1753.377	1753.377	1753.377
160.0	2000.273	2000.273	2000.273	2000.273	2000.273	2000.273	2000.273
162.5	2203.229	2203.229	2203.229	2203.229	2203.229	2203.229	2203.229
165.0	2432.340	2432.340	2432.340	2432.340	2432.340	2432.340	2432.340
167.5	2724.221	2724.221	2724.221	2724.221	2724.221	2724.221	2724.221
170.0	3131.180	3131.180	3131.180	3131.180	3131.180	3131.180	3131.180
172.5	3736.912	3736.912	3736.912	3736.912	3736.912	3736.912	3736.912
175.0	4155.380	4155.380	4155.380	4155.380	4155.380	4155.380	4155.380
177.5	4249.534	4249.534	4249.534	4249.534	4249.534	4249.534	4249.534
180.0	4197.303	4197.303	4197.303	4197.303	4197.303	4197.303	4197.303

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 8CRDI-TL-L20-8TWU-L20-8TWD-XXX-DALI-UNV-OM-CSU-RW-WHD-WM 4000K_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	483.23	N.A.	12.10
0-30	975.60	N.A.	24.50
0-40	1319.08	N.A.	33.10
0-60	1738.36	N.A.	43.60
0-80	1890.04	N.A.	47.40
0-90	1902.27	N.A.	47.70
10-90	1773.07	N.A.	44.50
20-40	835.85	N.A.	21.00
20-50	1071.7	N.A.	26.90
40-70	526.24	N.A.	13.20
60-80	151.69	N.A.	3.80
70-80	44.73	N.A.	1.10
80-90	12.23	N.A.	0.30
90-110	1.89	N.A.	0.00
90-120	6.28	N.A.	0.20
90-130	20.24	N.A.	0.50
90-150	353.39	N.A.	8.90
90-180	2081.91	N.A.	52.30
110-180	2080.02	N.A.	52.20
0-180	3984.18	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	129.20
10-20	354.03
20-30	492.37
30-40	343.48
40-50	235.85
50-60	183.43
60-70	106.96
70-80	44.73
80-90	12.23
90-100	0.54
100-110	1.35
110-120	4.39
120-130	13.96
130-140	43.42
140-150	289.72
150-160	679.37
160-170	687.57
170-180	361.58

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-8TWU-L20-8TWD-XXX-DALI-UNV-OM-CSU-RW-WHD-WM 4000K_.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	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	48
1	98	95	91	88	91	87	84	82	74	72	70	61	60	59	50	49	48	43
2	91	84	79	74	84	78	73	69	66	63	60	55	53	51	45	44	43	38
3	84	75	69	64	77	70	64	60	60	56	52	50	47	45	41	40	38	34
4	77	68	61	55	71	63	57	52	54	49	46	46	42	40	38	36	34	30
5	72	61	54	48	66	57	51	46	49	44	41	42	38	36	35	33	31	28
6	67	56	48	43	61	52	45	41	45	40	36	39	35	32	33	30	28	25
7	62	51	43	38	57	48	41	36	41	36	33	36	32	29	30	28	25	23
8	58	47	39	35	54	44	37	33	38	33	30	33	29	27	28	25	23	21
9	54	43	36	31	50	40	34	30	35	31	27	31	27	24	26	24	22	20
10	51	40	33	29	47	37	31	27	33	28	25	29	25	22	25	22	20	18

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-8TWU-L20-8TWD-XXX-DALI-UNV-OM-CSU-RW-WHD-WM 4000K_.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	15.5	16.2	16.5	17.2	18.6	UGR Viewed Endwise	15.5	16.2	16.5	17.2	18.6
	3H	16.4	17.1	17.4	18.1	19.4		16.4	17.1	17.4	18.1	19.4
	4H	16.7	17.3	17.7	18.3	19.6		16.7	17.3	17.7	18.3	19.6
	6H	16.8	17.4	17.8	18.4	19.7		16.8	17.4	17.8	18.4	19.7
	8H	16.8	17.4	17.9	18.4	19.8		16.8	17.4	17.9	18.4	19.8
	12H	16.8	17.4	17.9	18.4	19.8		16.8	17.4	17.9	18.4	19.8

4H	2H	15.8	16.4	16.8	17.4	18.8	15.8	16.4	16.8	17.4	18.8
	3H	16.9	17.4	17.9	18.4	19.8	16.9	17.4	17.9	18.4	19.8
	4H	17.2	17.6	18.2	18.7	20.1	17.2	17.6	18.2	18.7	20.1
	6H	17.4	17.8	18.5	18.9	20.2	17.4	17.8	18.5	18.9	20.2
	8H	17.5	17.9	18.5	18.9	20.3	17.5	17.9	18.5	18.9	20.3
	12H	17.5	17.9	18.6	18.9	20.3	17.5	17.9	18.6	18.9	20.3

8H	4H	17.2	17.6	18.3	18.6	20.0	17.2	17.6	18.3	18.6	20.0
	6H	17.6	17.9	18.6	19.0	20.3	17.6	17.9	18.6	19.0	20.3
	8H	17.7	18.0	18.8	19.0	20.4	17.7	18.0	18.8	19.0	20.4
	12H	17.8	18.0	18.9	19.1	20.5	17.8	18.0	18.9	19.1	20.5

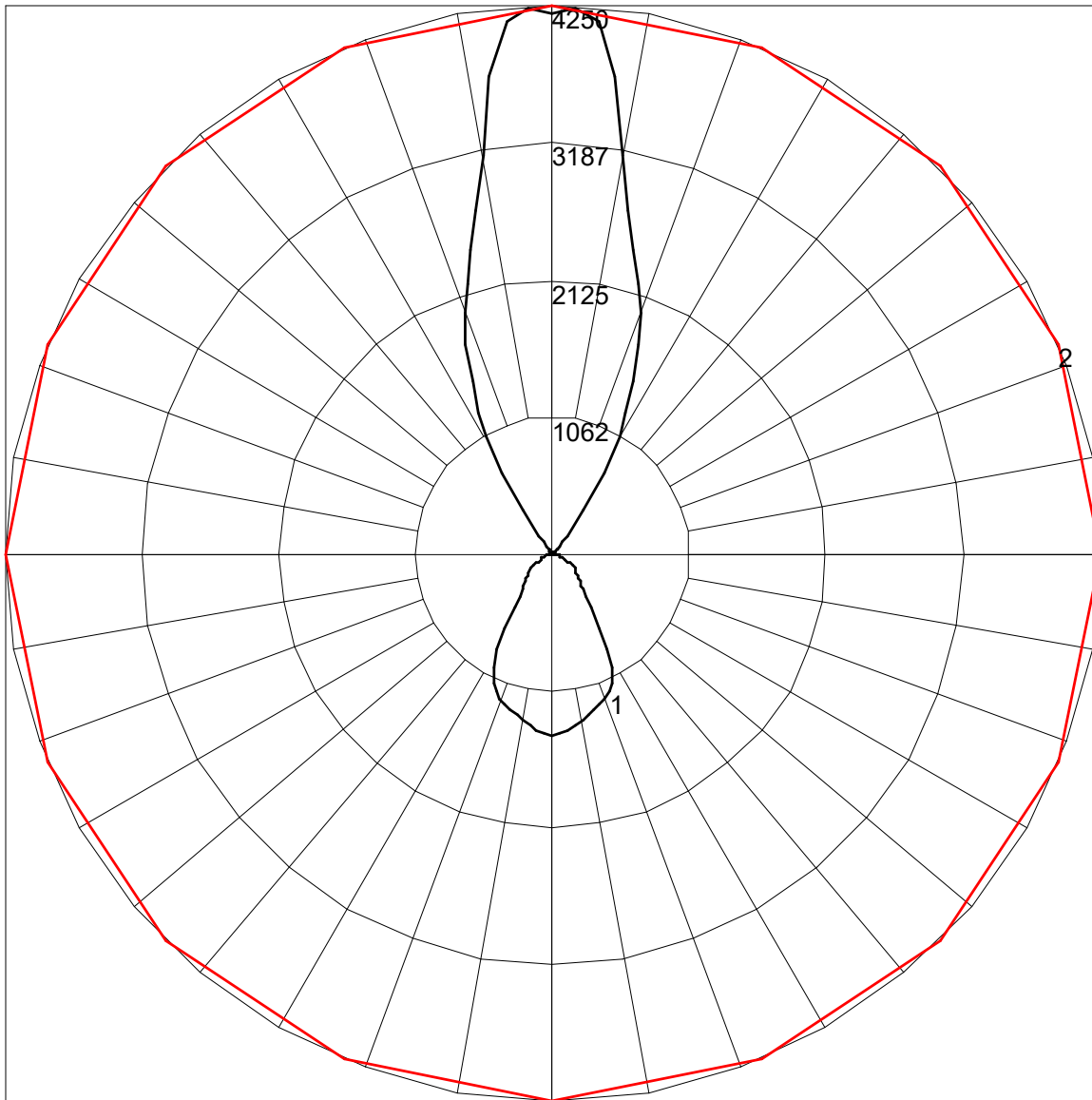
12H	4H	17.2	17.5	18.3	18.6	20.0	17.2	17.5	18.3	18.6	20.0
	6H	17.5	17.8	18.6	18.9	20.3	17.5	17.8	18.6	18.9	20.3
	8H	17.7	17.9	18.8	19.0	20.5	17.7	17.9	18.8	19.0	20.5

Maximum UGR = 20.5

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-8TWU-L20-8TWD-XXX-DALI-UNV-OM-CSU-RW-WHD-WM 4000K_.IES

POLAR GRAPH



Maximum Candela = 4249.534 Located At Horizontal Angle = 0, Vertical Angle = 177.5

1 - Vertical Plane Through Horizontal Angles (90 - 270)

2 - Horizontal Cone Through Vertical Angle (177.5) (Through Max. Cd.)