



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L30-940U-L30-940D-XXX-DIM-UNV-OW-RW-CS-CM24.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] gen from BALLABS TEST NO. 20685.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 09-20-2022

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 8"RND CAST ALUM DIRECT INDIRECT LED CYLINDER

[MORE] OPEN SEMI-SPEC SPUN ALUMINUM REFLECTOR (WIDE)

[LUMCAT] 8CRDI-TL-L30-940U-L30-940D-XXX-DIM-UNV-OW-RW-CS-CM

[LAMPCAT] V13 BXRE-35E2000

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] Indoor, Classroom, Commercial, Corridor, Hotel, Industrial, Office, Downlight

[_SEARCH_MOUNTING] Suspended

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3788
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	69
Total Luminaire Watts	54.7
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)	0.37 ft (Diameter)
Luminous Width (90-270)	0.37 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	32653	32653	32653
55	22387	22387	22387
65	8641	8641	8641
75	0	0	0
85	0	0	0

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L30-940U-L30-940D-XXX-DIM-UNV-OW-RW-CS-CM24.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	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848
5	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533
10	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771
15	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184
20	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575
25	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406
30	915.819	915.819	915.819	915.819	915.819	915.819	915.819	915.819	915.819	915.819
35	365.640	365.640	365.640	365.640	365.640	365.640	365.640	365.640	365.640	365.640
40	257.897	257.897	257.897	257.897	257.897	257.897	257.897	257.897	257.897	257.897
45	224.657	224.657	224.657	224.657	224.657	224.657	224.657	224.657	224.657	224.657
50	181.101	181.101	181.101	181.101	181.101	181.101	181.101	181.101	181.101	181.101
55	124.937	124.937	124.937	124.937	124.937	124.937	124.937	124.937	124.937	124.937
60	75.650	75.650	75.650	75.650	75.650	75.650	75.650	75.650	75.650	75.650
65	35.532	35.532	35.532	35.532	35.532	35.532	35.532	35.532	35.532	35.532
70	11.462	11.462	11.462	11.462	11.462	11.462	11.462	11.462	11.462	11.462
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	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008
115	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008
120	5.040	5.040	5.040	5.040	5.040	5.040	5.040	5.040	5.040	5.040
125	11.089	11.089	11.089	11.089	11.089	11.089	11.089	11.089	11.089	11.089
130	23.185	23.185	23.185	23.185	23.185	23.185	23.185	23.185	23.185	23.185
135	44.355	44.355	44.355	44.355	44.355	44.355	44.355	44.355	44.355	44.355
140	80.645	80.645	80.645	80.645	80.645	80.645	80.645	80.645	80.645	80.645
145	309.475	309.475	309.475	309.475	309.475	309.475	309.475	309.475	309.475	309.475
150	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091
155	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984
160	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501
165	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800
170	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477
175	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026
180	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000

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	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848
5	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533
10	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771
15	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184
20	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575
25	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406
30	915.819	915.819	915.819	915.819	915.819	915.819	915.819	915.819	915.819	915.819
35	365.640	365.640	365.640	365.640	365.640	365.640	365.640	365.640	365.640	365.640
40	257.897	257.897	257.897	257.897	257.897	257.897	257.897	257.897	257.897	257.897
45	224.657	224.657	224.657	224.657	224.657	224.657	224.657	224.657	224.657	224.657
50	181.101	181.101	181.101	181.101	181.101	181.101	181.101	181.101	181.101	181.101
55	124.937	124.937	124.937	124.937	124.937	124.937	124.937	124.937	124.937	124.937
60	75.650	75.650	75.650	75.650	75.650	75.650	75.650	75.650	75.650	75.650

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L30-940U-L30-940D-XXX-DIM-UNV-OW-RW-CS-CM24.IES

CANDELA TABULATION - (Cont.)

65	35.532	35.532	35.532	35.532	35.532	35.532	35.532	35.532	35.532	35.532
70	11.462	11.462	11.462	11.462	11.462	11.462	11.462	11.462	11.462	11.462
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	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008
115	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008
120	5.040	5.040	5.040	5.040	5.040	5.040	5.040	5.040	5.040	5.040
125	11.089	11.089	11.089	11.089	11.089	11.089	11.089	11.089	11.089	11.089
130	23.185	23.185	23.185	23.185	23.185	23.185	23.185	23.185	23.185	23.185
135	44.355	44.355	44.355	44.355	44.355	44.355	44.355	44.355	44.355	44.355
140	80.645	80.645	80.645	80.645	80.645	80.645	80.645	80.645	80.645	80.645
145	309.475	309.475	309.475	309.475	309.475	309.475	309.475	309.475	309.475	309.475
150	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091
155	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984
160	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501
165	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800
170	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477
175	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026
180	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000

Vert. Angles

Horizontal Angles

	<u>100</u>	<u>105</u>	<u>110</u>	<u>115</u>	<u>120</u>	<u>125</u>	<u>130</u>	<u>135</u>	<u>140</u>	<u>145</u>
0	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848
5	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533
10	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771
15	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184
20	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575
25	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406
30	915.819	915.819	915.819	915.819	915.819	915.819	915.819	915.819	915.819	915.819
35	365.640	365.640	365.640	365.640	365.640	365.640	365.640	365.640	365.640	365.640
40	257.897	257.897	257.897	257.897	257.897	257.897	257.897	257.897	257.897	257.897
45	224.657	224.657	224.657	224.657	224.657	224.657	224.657	224.657	224.657	224.657
50	181.101	181.101	181.101	181.101	181.101	181.101	181.101	181.101	181.101	181.101
55	124.937	124.937	124.937	124.937	124.937	124.937	124.937	124.937	124.937	124.937
60	75.650	75.650	75.650	75.650	75.650	75.650	75.650	75.650	75.650	75.650
65	35.532	35.532	35.532	35.532	35.532	35.532	35.532	35.532	35.532	35.532
70	11.462	11.462	11.462	11.462	11.462	11.462	11.462	11.462	11.462	11.462
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	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008
115	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008
120	5.040	5.040	5.040	5.040	5.040	5.040	5.040	5.040	5.040	5.040
125	11.089	11.089	11.089	11.089	11.089	11.089	11.089	11.089	11.089	11.089
130	23.185	23.185	23.185	23.185	23.185	23.185	23.185	23.185	23.185	23.185
135	44.355	44.355	44.355	44.355	44.355	44.355	44.355	44.355	44.355	44.355

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L30-940U-L30-940D-XXX-DIM-UNV-OW-RW-CS-CM24.IES

CANDELA TABULATION - (Cont.)

140	80.645	80.645	80.645	80.645	80.645	80.645	80.645	80.645	80.645	80.645
145	309.475	309.475	309.475	309.475	309.475	309.475	309.475	309.475	309.475	309.475
150	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091
155	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984
160	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501
165	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800
170	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477
175	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026
180	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000

Vert. Horizontal Angles

Angles	150	155	160	165	170	175	180
0	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848	2538.848
5	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533	2528.533
10	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771	1534.771
15	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184	1138.184
20	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575	1125.575
25	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406	1116.406
30	915.819	915.819	915.819	915.819	915.819	915.819	915.819
35	365.640	365.640	365.640	365.640	365.640	365.640	365.640
40	257.897	257.897	257.897	257.897	257.897	257.897	257.897
45	224.657	224.657	224.657	224.657	224.657	224.657	224.657
50	181.101	181.101	181.101	181.101	181.101	181.101	181.101
55	124.937	124.937	124.937	124.937	124.937	124.937	124.937
60	75.650	75.650	75.650	75.650	75.650	75.650	75.650
65	35.532	35.532	35.532	35.532	35.532	35.532	35.532
70	11.462	11.462	11.462	11.462	11.462	11.462	11.462
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	1.008	1.008	1.008	1.008	1.008	1.008	1.008
115	1.008	1.008	1.008	1.008	1.008	1.008	1.008
120	5.040	5.040	5.040	5.040	5.040	5.040	5.040
125	11.089	11.089	11.089	11.089	11.089	11.089	11.089
130	23.185	23.185	23.185	23.185	23.185	23.185	23.185
135	44.355	44.355	44.355	44.355	44.355	44.355	44.355
140	80.645	80.645	80.645	80.645	80.645	80.645	80.645
145	309.475	309.475	309.475	309.475	309.475	309.475	309.475
150	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091	1762.091
155	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984	2248.984
160	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501	2063.501
165	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800	1975.800
170	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477	1935.477
175	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026	1879.026
180	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000	1824.000

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 8CRDI-TL-L30-940U-L30-940D-XXX-DIM-UNV-OW-RW-CS-CM24.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	551.06	N.A.	14.50
0-30	1043.38	N.A.	27.50
0-40	1336.12	N.A.	35.30
0-60	1620.36	N.A.	42.80
0-80	1662.29	N.A.	43.90
0-90	1662.29	N.A.	43.90
10-90	1456.35	N.A.	38.40
20-40	785.06	N.A.	20.70
20-50	956.40	N.A.	25.20
40-70	323.17	N.A.	8.50
60-80	41.92	N.A.	1.10
70-80	3.00	N.A.	0.10
80-90	0.00	N.A.	0.00
90-110	0.26	N.A.	0.00
90-120	2.24	N.A.	0.10
90-130	13.42	N.A.	0.40
90-150	420.36	N.A.	11.10
90-180	2125.9	N.A.	56.10
110-180	2125.63	N.A.	56.10
0-180	3788.19	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	205.94
10-20	345.12
20-30	492.32
30-40	292.74
40-50	171.34
50-60	112.91
60-70	38.93
70-80	3.00
80-90	0.00
90-100	0.00
100-110	0.26
110-120	1.98
120-130	11.18
130-140	36.79
140-150	370.14
150-160	959.91
160-170	564.91
170-180	180.73

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L30-940U-L30-940D-XXX-DIM-UNV-OW-RW-CS-CM24.IES

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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44
1	98	95	91	89	90	87	84	82	73	71	69	59	58	57	47	47	46	40
2	91	85	80	75	83	78	74	70	66	63	60	55	53	51	44	43	42	37
3	84	76	70	65	77	71	65	61	60	56	53	50	48	45	41	39	38	34
4	78	69	62	57	72	64	58	54	55	51	47	46	43	41	38	36	35	31
5	73	63	56	51	67	59	53	48	50	46	43	43	40	37	36	34	32	29
6	68	57	50	45	63	54	48	43	46	42	38	40	36	34	33	31	29	27
7	63	53	46	41	59	49	43	39	43	38	35	37	34	31	31	29	27	25
8	59	49	42	37	55	46	40	35	40	35	32	34	31	29	29	27	25	23
9	56	45	38	34	52	42	37	33	37	33	30	32	29	27	28	25	24	22
10	53	42	36	31	49	39	34	30	35	30	27	30	27	25	26	24	22	20

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L30-940U-L30-940D-XXX-DIM-UNV-OW-RW-CS-CM24.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	13.8	14.4	14.8	15.5	16.8	13.8	14.4	14.8	15.5	16.8
	3H	13.8	14.4	14.8	15.4	16.8	13.8	14.4	14.8	15.4	16.8
	4H	13.7	14.3	14.7	15.3	16.7	13.7	14.3	14.7	15.3	16.7
	6H	13.6	14.1	14.6	15.1	16.5	13.6	14.1	14.6	15.1	16.5
	8H	13.5	14.0	14.6	15.1	16.5	13.5	14.0	14.6	15.1	16.5
	12H	13.5	13.9	14.5	15.0	16.4	13.5	13.9	14.5	15.0	16.4

UGR Viewed Endwise

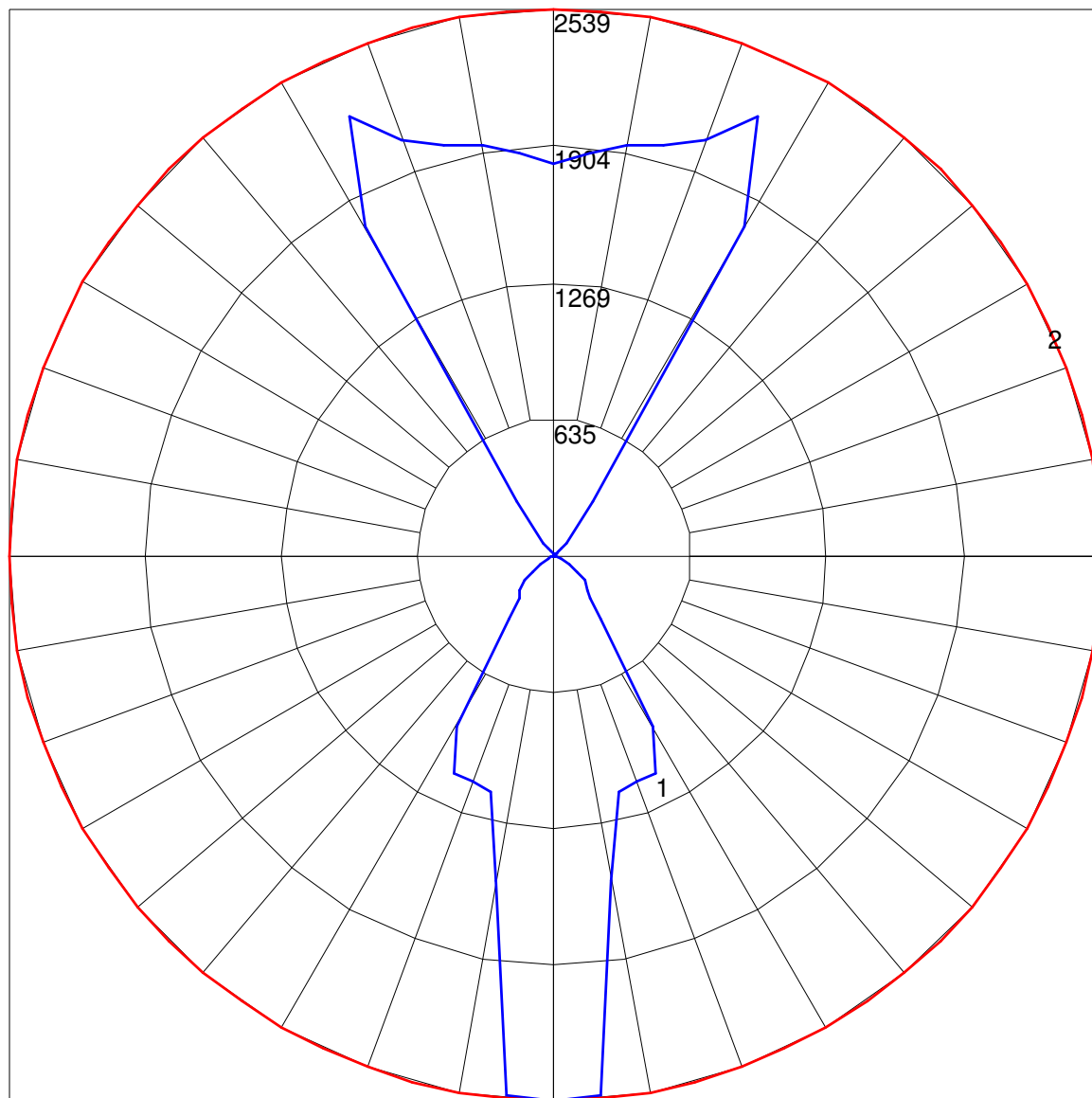
4H	2H	13.7	14.3	14.8	15.3	16.7	13.7	14.3	14.8	15.3	16.7
	3H	13.7	14.2	14.8	15.3	16.7	13.7	14.2	14.8	15.3	16.7
	4H	13.6	14.0	14.7	15.1	16.5	13.6	14.0	14.7	15.1	16.5
	6H	13.5	13.9	14.6	14.9	16.4	13.5	13.9	14.6	14.9	16.4
	8H	13.4	13.8	14.5	14.8	16.3	13.4	13.8	14.5	14.8	16.3
	12H	13.4	13.7	14.5	14.8	16.2	13.4	13.7	14.5	14.8	16.2
8H	4H	13.4	13.8	14.5	14.9	16.3	13.4	13.8	14.5	14.9	16.3
	6H	13.3	13.6	14.4	14.7	16.2	13.3	13.6	14.4	14.7	16.2
	8H	13.3	13.5	14.4	14.6	16.1	13.3	13.5	14.4	14.6	16.1
	12H	13.2	13.4	14.3	14.5	16.0	13.2	13.4	14.3	14.5	16.0
12H	4H	13.4	13.7	14.5	14.8	16.2	13.4	13.7	14.5	14.8	16.2
	6H	13.3	13.5	14.4	14.6	16.1	13.3	13.5	14.4	14.6	16.1
	8H	13.2	13.4	14.3	14.5	16.0	13.2	13.4	14.3	14.5	16.0

Maximum UGR = 16.8

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L30-940U-L30-940D-XXX-DIM-UNV-OW-RW-CS-CM24.IES

POLAR GRAPH



Maximum Candela = 2538.848 Located At Horizontal Angle = 0, Vertical Angle = 0

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

2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)