



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192\_168\_37\_234-16\_39\_32-MERGED.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN from UL #12326812.04  
 [TESTLAB]  
 [ISSUE DATE] 5-MAR-2021  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] 8CRDI-TL-L25-9DWU-L25-9DWD-DIM-UNV-OM-CSU-OM-CSD-WM  
 [LUMINAIRE] 8" DIA. CYLINDER  
 [MORE]  
 [LAMP] Two white LEDs, one up/ one down  
 [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	4711
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	62
Total Luminaire Watts	75.4
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	4433	4433	4433
55	1632	1632	1632
65	642	642	642
75	288	288	288
85	234	234	234

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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>
<b>0.0</b>	4970.875	4970.875	4970.875	4970.875	4970.875	4970.875	4970.875	4970.875	4970.875	4970.875
<b>2.5</b>	5031.571	5031.571	5031.571	5031.571	5031.571	5031.571	5031.571	5031.571	5031.571	5031.571
<b>5.0</b>	4920.089	4920.089	4920.089	4920.089	4920.089	4920.089	4920.089	4920.089	4920.089	4920.089
<b>7.5</b>	4424.611	4424.611	4424.611	4424.611	4424.611	4424.611	4424.611	4424.611	4424.611	4424.611
<b>10.0</b>	3707.408	3707.408	3707.408	3707.408	3707.408	3707.408	3707.408	3707.408	3707.408	3707.408
<b>12.5</b>	3225.557	3225.557	3225.557	3225.557	3225.557	3225.557	3225.557	3225.557	3225.557	3225.557
<b>15.0</b>	2879.961	2879.961	2879.961	2879.961	2879.961	2879.961	2879.961	2879.961	2879.961	2879.961
<b>17.5</b>	2608.687	2608.687	2608.687	2608.687	2608.687	2608.687	2608.687	2608.687	2608.687	2608.687
<b>20.0</b>	2368.381	2368.381	2368.381	2368.381	2368.381	2368.381	2368.381	2368.381	2368.381	2368.381
<b>22.5</b>	2076.049	2076.049	2076.049	2076.049	2076.049	2076.049	2076.049	2076.049	2076.049	2076.049
<b>25.0</b>	1749.035	1749.035	1749.035	1749.035	1749.035	1749.035	1749.035	1749.035	1749.035	1749.035
<b>27.5</b>	1457.942	1457.942	1457.942	1457.942	1457.942	1457.942	1457.942	1457.942	1457.942	1457.942
<b>30.0</b>	1242.409	1242.409	1242.409	1242.409	1242.409	1242.409	1242.409	1242.409	1242.409	1242.409
<b>32.5</b>	880.958	880.958	880.958	880.958	880.958	880.958	880.958	880.958	880.958	880.958
<b>35.0</b>	489.903	489.903	489.903	489.903	489.903	489.903	489.903	489.903	489.903	489.903
<b>37.5</b>	213.675	213.675	213.675	213.675	213.675	213.675	213.675	213.675	213.675	213.675
<b>40.0</b>	143.441	143.441	143.441	143.441	143.441	143.441	143.441	143.441	143.441	143.441
<b>42.5</b>	80.887	80.887	80.887	80.887	80.887	80.887	80.887	80.887	80.887	80.887
<b>45.0</b>	57.228	57.228	57.228	57.228	57.228	57.228	57.228	57.228	57.228	57.228
<b>47.5</b>	44.345	44.345	44.345	44.345	44.345	44.345	44.345	44.345	44.345	44.345
<b>50.0</b>	33.197	33.197	33.197	33.197	33.197	33.197	33.197	33.197	33.197	33.197
<b>52.5</b>	24.031	24.031	24.031	24.031	24.031	24.031	24.031	24.031	24.031	24.031
<b>55.0</b>	17.094	17.094	17.094	17.094	17.094	17.094	17.094	17.094	17.094	17.094
<b>57.5</b>	12.387	12.387	12.387	12.387	12.387	12.387	12.387	12.387	12.387	12.387
<b>60.0</b>	9.042	9.042	9.042	9.042	9.042	9.042	9.042	9.042	9.042	9.042
<b>62.5</b>	6.689	6.689	6.689	6.689	6.689	6.689	6.689	6.689	6.689	6.689
<b>65.0</b>	4.955	4.955	4.955	4.955	4.955	4.955	4.955	4.955	4.955	4.955
<b>67.5</b>	3.592	3.592	3.592	3.592	3.592	3.592	3.592	3.592	3.592	3.592
<b>70.0</b>	2.725	2.725	2.725	2.725	2.725	2.725	2.725	2.725	2.725	2.725
<b>72.5</b>	1.982	1.982	1.982	1.982	1.982	1.982	1.982	1.982	1.982	1.982
<b>75.0</b>	1.363	1.363	1.363	1.363	1.363	1.363	1.363	1.363	1.363	1.363
<b>77.5</b>	0.991	0.991	0.991	0.991	0.991	0.991	0.991	0.991	0.991	0.991
<b>80.0</b>	0.743	0.743	0.743	0.743	0.743	0.743	0.743	0.743	0.743	0.743
<b>82.5</b>	0.495	0.495	0.495	0.495	0.495	0.495	0.495	0.495	0.495	0.495
<b>85.0</b>	0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372
<b>87.5</b>	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248
<b>90.0</b>	0.237	0.237	0.237	0.237	0.237	0.237	0.237	0.237	0.237	0.237
<b>92.5</b>	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225
<b>95.0</b>	0.338	0.338	0.338	0.338	0.338	0.338	0.338	0.338	0.338	0.338
<b>97.5</b>	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451
<b>100.0</b>	0.678	0.678	0.678	0.678	0.678	0.678	0.678	0.678	0.678	0.678
<b>102.5</b>	0.903	0.903	0.903	0.903	0.903	0.903	0.903	0.903	0.903	0.903
<b>105.0</b>	1.241	1.241	1.241	1.241	1.241	1.241	1.241	1.241	1.241	1.241
<b>107.5</b>	1.806	1.806	1.806	1.806	1.806	1.806	1.806	1.806	1.806	1.806
<b>110.0</b>	2.483	2.483	2.483	2.483	2.483	2.483	2.483	2.483	2.483	2.483
<b>112.5</b>	3.273	3.273	3.273	3.273	3.273	3.273	3.273	3.273	3.273	3.273
<b>115.0</b>	4.514	4.514	4.514	4.514	4.514	4.514	4.514	4.514	4.514	4.514
<b>117.5</b>	6.094	6.094	6.094	6.094	6.094	6.094	6.094	6.094	6.094	6.094
<b>120.0</b>	8.238	8.238	8.238	8.238	8.238	8.238	8.238	8.238	8.238	8.238
<b>122.5</b>	11.286	11.286	11.286	11.286	11.286	11.286	11.286	11.286	11.286	11.286
<b>125.0</b>	15.575	15.575	15.575	15.575	15.575	15.575	15.575	15.575	15.575	15.575
<b>127.5</b>	21.894	21.894	21.894	21.894	21.894	21.894	21.894	21.894	21.894	21.894
<b>130.0</b>	30.246	30.246	30.246	30.246	30.246	30.246	30.246	30.246	30.246	30.246
<b>132.5</b>	40.403	40.403	40.403	40.403	40.403	40.403	40.403	40.403	40.403	40.403

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**CANDELA TABULATION - (Cont.)**

135.0	52.140	52.140	52.140	52.140	52.140	52.140	52.140	52.140	52.140	52.140
137.5	73.696	73.696	73.696	73.696	73.696	73.696	73.696	73.696	73.696	73.696
140.0	130.689	130.689	130.689	130.689	130.689	130.689	130.689	130.689	130.689	130.689
142.5	194.680	194.680	194.680	194.680	194.680	194.680	194.680	194.680	194.680	194.680
145.0	446.352	446.352	446.352	446.352	446.352	446.352	446.352	446.352	446.352	446.352
147.5	802.642	802.642	802.642	802.642	802.642	802.642	802.642	802.642	802.642	802.642
150.0	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961
152.5	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333
155.0	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548
157.5	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492
160.0	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835
162.5	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779
165.0	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937
167.5	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809
170.0	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825
172.5	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271
175.0	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701
177.5	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272
180.0	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927

**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	4970.875	4970.875	4970.875	4970.875	4970.875	4970.875	4970.875
2.5	5031.571	5031.571	5031.571	5031.571	5031.571	5031.571	5031.571
5.0	4920.089	4920.089	4920.089	4920.089	4920.089	4920.089	4920.089
7.5	4424.611	4424.611	4424.611	4424.611	4424.611	4424.611	4424.611
10.0	3707.408	3707.408	3707.408	3707.408	3707.408	3707.408	3707.408
12.5	3225.557	3225.557	3225.557	3225.557	3225.557	3225.557	3225.557
15.0	2879.961	2879.961	2879.961	2879.961	2879.961	2879.961	2879.961
17.5	2608.687	2608.687	2608.687	2608.687	2608.687	2608.687	2608.687
20.0	2368.381	2368.381	2368.381	2368.381	2368.381	2368.381	2368.381
22.5	2076.049	2076.049	2076.049	2076.049	2076.049	2076.049	2076.049
25.0	1749.035	1749.035	1749.035	1749.035	1749.035	1749.035	1749.035
27.5	1457.942	1457.942	1457.942	1457.942	1457.942	1457.942	1457.942
30.0	1242.409	1242.409	1242.409	1242.409	1242.409	1242.409	1242.409
32.5	880.958	880.958	880.958	880.958	880.958	880.958	880.958
35.0	489.903	489.903	489.903	489.903	489.903	489.903	489.903
37.5	213.675	213.675	213.675	213.675	213.675	213.675	213.675
40.0	143.441	143.441	143.441	143.441	143.441	143.441	143.441
42.5	80.887	80.887	80.887	80.887	80.887	80.887	80.887
45.0	57.228	57.228	57.228	57.228	57.228	57.228	57.228
47.5	44.345	44.345	44.345	44.345	44.345	44.345	44.345
50.0	33.197	33.197	33.197	33.197	33.197	33.197	33.197
52.5	24.031	24.031	24.031	24.031	24.031	24.031	24.031
55.0	17.094	17.094	17.094	17.094	17.094	17.094	17.094
57.5	12.387	12.387	12.387	12.387	12.387	12.387	12.387
60.0	9.042	9.042	9.042	9.042	9.042	9.042	9.042
62.5	6.689	6.689	6.689	6.689	6.689	6.689	6.689
65.0	4.955	4.955	4.955	4.955	4.955	4.955	4.955
67.5	3.592	3.592	3.592	3.592	3.592	3.592	3.592
70.0	2.725	2.725	2.725	2.725	2.725	2.725	2.725
72.5	1.982	1.982	1.982	1.982	1.982	1.982	1.982
75.0	1.363	1.363	1.363	1.363	1.363	1.363	1.363
77.5	0.991	0.991	0.991	0.991	0.991	0.991	0.991
80.0	0.743	0.743	0.743	0.743	0.743	0.743	0.743

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**CANDELA TABULATION - (Cont.)**

<b>82.5</b>	0.495	0.495	0.495	0.495	0.495	0.495	0.495
<b>85.0</b>	0.372	0.372	0.372	0.372	0.372	0.372	0.372
<b>87.5</b>	0.248	0.248	0.248	0.248	0.248	0.248	0.248
<b>90.0</b>	0.237	0.237	0.237	0.237	0.237	0.237	0.237
<b>92.5</b>	0.225	0.225	0.225	0.225	0.225	0.225	0.225
<b>95.0</b>	0.338	0.338	0.338	0.338	0.338	0.338	0.338
<b>97.5</b>	0.451	0.451	0.451	0.451	0.451	0.451	0.451
<b>100.0</b>	0.678	0.678	0.678	0.678	0.678	0.678	0.678
<b>102.5</b>	0.903	0.903	0.903	0.903	0.903	0.903	0.903
<b>105.0</b>	1.241	1.241	1.241	1.241	1.241	1.241	1.241
<b>107.5</b>	1.806	1.806	1.806	1.806	1.806	1.806	1.806
<b>110.0</b>	2.483	2.483	2.483	2.483	2.483	2.483	2.483
<b>112.5</b>	3.273	3.273	3.273	3.273	3.273	3.273	3.273
<b>115.0</b>	4.514	4.514	4.514	4.514	4.514	4.514	4.514
<b>117.5</b>	6.094	6.094	6.094	6.094	6.094	6.094	6.094
<b>120.0</b>	8.238	8.238	8.238	8.238	8.238	8.238	8.238
<b>122.5</b>	11.286	11.286	11.286	11.286	11.286	11.286	11.286
<b>125.0</b>	15.575	15.575	15.575	15.575	15.575	15.575	15.575
<b>127.5</b>	21.894	21.894	21.894	21.894	21.894	21.894	21.894
<b>130.0</b>	30.246	30.246	30.246	30.246	30.246	30.246	30.246
<b>132.5</b>	40.403	40.403	40.403	40.403	40.403	40.403	40.403
<b>135.0</b>	52.140	52.140	52.140	52.140	52.140	52.140	52.140
<b>137.5</b>	73.696	73.696	73.696	73.696	73.696	73.696	73.696
<b>140.0</b>	130.689	130.689	130.689	130.689	130.689	130.689	130.689
<b>142.5</b>	194.680	194.680	194.680	194.680	194.680	194.680	194.680
<b>145.0</b>	446.352	446.352	446.352	446.352	446.352	446.352	446.352
<b>147.5</b>	802.642	802.642	802.642	802.642	802.642	802.642	802.642
<b>150.0</b>	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961
<b>152.5</b>	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333
<b>155.0</b>	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548
<b>157.5</b>	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492
<b>160.0</b>	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835
<b>162.5</b>	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779
<b>165.0</b>	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937
<b>167.5</b>	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809
<b>170.0</b>	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825
<b>172.5</b>	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271
<b>175.0</b>	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701
<b>177.5</b>	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272
<b>180.0</b>	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1242.23	N.A.	26.40
0-30	2046.62	N.A.	43.40
0-40	2389.66	N.A.	50.70
0-60	2457.61	N.A.	52.20
0-80	2464.41	N.A.	52.30
0-90	2464.84	N.A.	52.30
10-90	2036.72	N.A.	43.20
20-40	1147.43	N.A.	24.40
20-50	1198.85	N.A.	25.50
40-70	73.15	N.A.	1.60
60-80	6.80	N.A.	0.10
70-80	1.60	N.A.	0.00
80-90	0.44	N.A.	0.00
90-110	1.86	N.A.	0.00
90-120	6.59	N.A.	0.10
90-130	21.66	N.A.	0.50
90-150	381.05	N.A.	8.10
90-180	2245.72	N.A.	47.70
110-180	2243.87	N.A.	47.60
0-180	4710.57	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	428.12
10-20	814.10
20-30	804.39
30-40	343.04
40-50	51.41
50-60	16.53
60-70	5.20
70-80	1.60
80-90	0.44
90-100	0.40
100-110	1.46
110-120	4.74
120-130	15.06
130-140	46.84
140-150	312.54
150-160	732.88
160-170	741.73
170-180	390.06

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192\_168\_37\_234-16\_39\_32-MERGED.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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	101	98	95	92	94	91	89	86	78	77	75	66	65	64	56	55	54	50
2	95	89	85	81	88	83	79	76	72	70	67	62	61	59	53	52	51	47
3	89	82	76	72	83	77	72	68	67	64	61	59	56	54	50	49	48	44
4	83	75	69	65	78	71	66	62	63	59	56	55	52	50	48	46	45	42
5	79	70	63	59	73	66	60	56	59	55	52	52	49	47	46	44	42	39
6	74	65	58	54	69	61	56	52	55	51	48	49	46	44	44	41	40	37
7	70	60	54	50	66	57	52	48	52	48	44	46	43	41	42	39	38	35
8	66	56	50	46	62	54	48	45	49	45	42	44	41	39	40	37	36	34
9	63	53	47	43	59	51	45	42	46	42	39	42	39	36	38	36	34	32
10	60	50	44	40	56	48	43	39	44	40	37	40	37	35	36	34	32	31

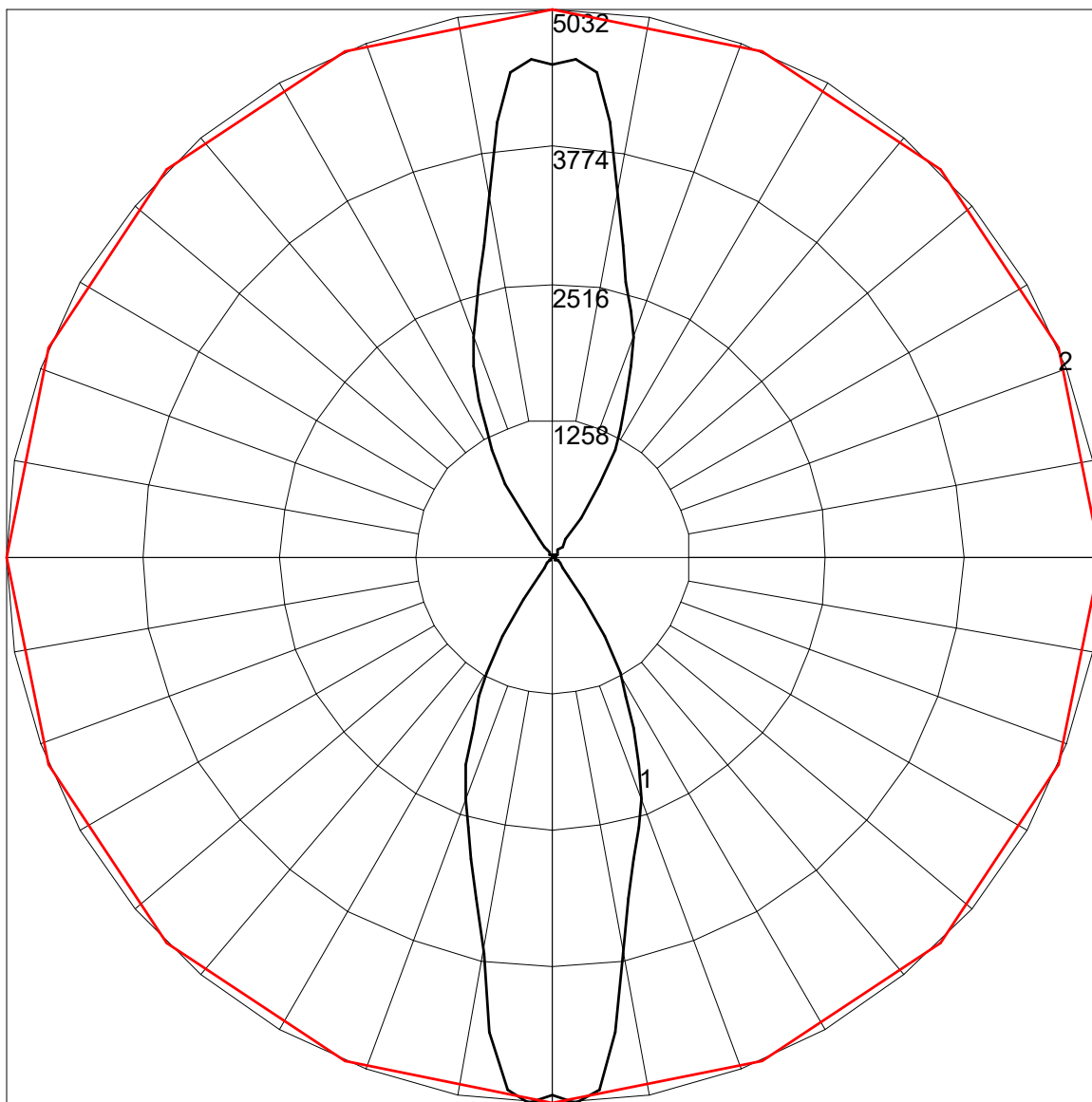
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : 192\_168\_37\_234-16\_39\_32-MERGED.IES**

**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	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	3H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	4H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	6H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	8H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	12H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
4H	2H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	3H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	4H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	6H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	8H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	12H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
8H	4H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	6H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	8H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	12H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
12H	4H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	6H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	8H	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4

Maximum UGR = 5.4

POLAR GRAPH



Maximum Candela = 5031.571 Located At Horizontal Angle = 0, Vertical Angle = 2.5  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)