



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192\_168\_37\_234-14\_22\_20-MERGED.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.05 & #12326812.05

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 1-MAR-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CRDI-TL-P29-8TWU-P29-8TWD-xxx-POE PR-ON-CSU-ON-CSD-WM 4000k

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

[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	4838
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	97
Total Luminaire Watts	50
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	1235	1235	1235
55	468	468	468
65	159	159	159
75	0	0	0
85	0	0	0

**IES INDOOR REPORT**  
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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>	26977.720	26977.720	26977.720	26977.720	26977.720	26977.720	26977.720	26977.720	26977.720	26977.720
<b>2.5</b>	21251.086	21251.086	21251.086	21251.086	21251.086	21251.086	21251.086	21251.086	21251.086	21251.086
<b>5.0</b>	12054.136	12054.136	12054.136	12054.136	12054.136	12054.136	12054.136	12054.136	12054.136	12054.136
<b>7.5</b>	6782.444	6782.444	6782.444	6782.444	6782.444	6782.444	6782.444	6782.444	6782.444	6782.444
<b>10.0</b>	4323.793	4323.793	4323.793	4323.793	4323.793	4323.793	4323.793	4323.793	4323.793	4323.793
<b>12.5</b>	3099.985	3099.985	3099.985	3099.985	3099.985	3099.985	3099.985	3099.985	3099.985	3099.985
<b>15.0</b>	2491.760	2491.760	2491.760	2491.760	2491.760	2491.760	2491.760	2491.760	2491.760	2491.760
<b>17.5</b>	2148.408	2148.408	2148.408	2148.408	2148.408	2148.408	2148.408	2148.408	2148.408	2148.408
<b>20.0</b>	1910.513	1910.513	1910.513	1910.513	1910.513	1910.513	1910.513	1910.513	1910.513	1910.513
<b>22.5</b>	1617.437	1617.437	1617.437	1617.437	1617.437	1617.437	1617.437	1617.437	1617.437	1617.437
<b>25.0</b>	1252.011	1252.011	1252.011	1252.011	1252.011	1252.011	1252.011	1252.011	1252.011	1252.011
<b>27.5</b>	1009.212	1009.212	1009.212	1009.212	1009.212	1009.212	1009.212	1009.212	1009.212	1009.212
<b>30.0</b>	925.826	925.826	925.826	925.826	925.826	925.826	925.826	925.826	925.826	925.826
<b>32.5</b>	664.633	664.633	664.633	664.633	664.633	664.633	664.633	664.633	664.633	664.633
<b>35.0</b>	296.755	296.755	296.755	296.755	296.755	296.755	296.755	296.755	296.755	296.755
<b>37.5</b>	46.598	46.598	46.598	46.598	46.598	46.598	46.598	46.598	46.598	46.598
<b>40.0</b>	25.751	25.751	25.751	25.751	25.751	25.751	25.751	25.751	25.751	25.751
<b>42.5</b>	20.846	20.846	20.846	20.846	20.846	20.846	20.846	20.846	20.846	20.846
<b>45.0</b>	15.941	15.941	15.941	15.941	15.941	15.941	15.941	15.941	15.941	15.941
<b>47.5</b>	12.263	12.263	12.263	12.263	12.263	12.263	12.263	12.263	12.263	12.263
<b>50.0</b>	9.810	9.810	9.810	9.810	9.810	9.810	9.810	9.810	9.810	9.810
<b>52.5</b>	6.131	6.131	6.131	6.131	6.131	6.131	6.131	6.131	6.131	6.131
<b>55.0</b>	4.905	4.905	4.905	4.905	4.905	4.905	4.905	4.905	4.905	4.905
<b>57.5</b>	3.679	3.679	3.679	3.679	3.679	3.679	3.679	3.679	3.679	3.679
<b>60.0</b>	2.453	2.453	2.453	2.453	2.453	2.453	2.453	2.453	2.453	2.453
<b>62.5</b>	2.453	2.453	2.453	2.453	2.453	2.453	2.453	2.453	2.453	2.453
<b>65.0</b>	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226
<b>67.5</b>	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226
<b>70.0</b>	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226
<b>72.5</b>	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226
<b>75.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>77.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>80.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>82.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>85.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>87.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>90.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>92.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>95.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>97.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>100.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>102.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>105.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>107.5</b>	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117
<b>110.0</b>	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117
<b>112.5</b>	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117
<b>115.0</b>	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117
<b>117.5</b>	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235
<b>120.0</b>	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235
<b>122.5</b>	3.352	3.352	3.352	3.352	3.352	3.352	3.352	3.352	3.352	3.352
<b>125.0</b>	4.470	4.470	4.470	4.470	4.470	4.470	4.470	4.470	4.470	4.470
<b>127.5</b>	5.587	5.587	5.587	5.587	5.587	5.587	5.587	5.587	5.587	5.587
<b>130.0</b>	8.939	8.939	8.939	8.939	8.939	8.939	8.939	8.939	8.939	8.939
<b>132.5</b>	11.174	11.174	11.174	11.174	11.174	11.174	11.174	11.174	11.174	11.174

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**CANDELA TABULATION - (Cont.)**

135.0	14.526	14.526	14.526	14.526	14.526	14.526	14.526	14.526	14.526	14.526
137.5	18.996	18.996	18.996	18.996	18.996	18.996	18.996	18.996	18.996	18.996
140.0	23.466	23.466	23.466	23.466	23.466	23.466	23.466	23.466	23.466	23.466
142.5	42.462	42.462	42.462	42.462	42.462	42.462	42.462	42.462	42.462	42.462
145.0	270.413	270.413	270.413	270.413	270.413	270.413	270.413	270.413	270.413	270.413
147.5	605.636	605.636	605.636	605.636	605.636	605.636	605.636	605.636	605.636	605.636
150.0	843.644	843.644	843.644	843.644	843.644	843.644	843.644	843.644	843.644	843.644
152.5	919.628	919.628	919.628	919.628	919.628	919.628	919.628	919.628	919.628	919.628
155.0	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875
157.5	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863
160.0	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924
162.5	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702
165.0	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577
167.5	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812
170.0	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987
172.5	6180.403	6180.403	6180.403	6180.403	6180.403	6180.401	6180.401	6180.401	6180.401	6180.401
175.0	10984.160	10984.160	10984.160	10984.160	10984.160	10984.157	10984.157	10984.157	10984.157	10984.157
177.5	19364.728	19364.728	19364.728	19364.728	19364.727	19364.727	19364.727	19364.726	19364.726	19364.726
180.0	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015

**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	26977.720	26977.720	26977.720	26977.720	26977.720	26977.720	26977.720
2.5	21251.086	21251.086	21251.086	21251.086	21251.086	21251.086	21251.086
5.0	12054.136	12054.136	12054.136	12054.136	12054.136	12054.136	12054.136
7.5	6782.444	6782.444	6782.444	6782.444	6782.444	6782.444	6782.444
10.0	4323.793	4323.793	4323.793	4323.793	4323.793	4323.793	4323.793
12.5	3099.985	3099.985	3099.985	3099.985	3099.985	3099.985	3099.985
15.0	2491.760	2491.760	2491.760	2491.760	2491.760	2491.760	2491.760
17.5	2148.408	2148.408	2148.408	2148.408	2148.408	2148.408	2148.408
20.0	1910.513	1910.513	1910.513	1910.513	1910.513	1910.513	1910.513
22.5	1617.437	1617.437	1617.437	1617.437	1617.437	1617.437	1617.437
25.0	1252.011	1252.011	1252.011	1252.011	1252.011	1252.011	1252.011
27.5	1009.212	1009.212	1009.212	1009.212	1009.212	1009.212	1009.212
30.0	925.826	925.826	925.826	925.826	925.826	925.826	925.826
32.5	664.633	664.633	664.633	664.633	664.633	664.633	664.633
35.0	296.755	296.755	296.755	296.755	296.755	296.755	296.755
37.5	46.598	46.598	46.598	46.598	46.598	46.598	46.598
40.0	25.751	25.751	25.751	25.751	25.751	25.751	25.751
42.5	20.846	20.846	20.846	20.846	20.846	20.846	20.846
45.0	15.941	15.941	15.941	15.941	15.941	15.941	15.941
47.5	12.263	12.263	12.263	12.263	12.263	12.263	12.263
50.0	9.810	9.810	9.810	9.810	9.810	9.810	9.810
52.5	6.131	6.131	6.131	6.131	6.131	6.131	6.131
55.0	4.905	4.905	4.905	4.905	4.905	4.905	4.905
57.5	3.679	3.679	3.679	3.679	3.679	3.679	3.679
60.0	2.453	2.453	2.453	2.453	2.453	2.453	2.453
62.5	2.453	2.453	2.453	2.453	2.453	2.453	2.453
65.0	1.226	1.226	1.226	1.226	1.226	1.226	1.226
67.5	1.226	1.226	1.226	1.226	1.226	1.226	1.226
70.0	1.226	1.226	1.226	1.226	1.226	1.226	1.226
72.5	1.226	1.226	1.226	1.226	1.226	1.226	1.226
75.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
77.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
80.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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**CANDELA TABULATION - (Cont.)**

82.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
85.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
87.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
97.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
107.5	1.117	1.117	1.117	1.117	1.117	1.117	1.117
110.0	1.117	1.117	1.117	1.117	1.117	1.117	1.117
112.5	1.117	1.117	1.117	1.117	1.117	1.117	1.117
115.0	1.117	1.117	1.117	1.117	1.117	1.117	1.117
117.5	2.235	2.235	2.235	2.235	2.235	2.235	2.235
120.0	2.235	2.235	2.235	2.235	2.235	2.235	2.235
122.5	3.352	3.352	3.352	3.352	3.352	3.352	3.352
125.0	4.470	4.470	4.470	4.470	4.470	4.470	4.470
127.5	5.587	5.587	5.587	5.587	5.587	5.587	5.587
130.0	8.939	8.939	8.939	8.939	8.939	8.939	8.939
132.5	11.174	11.174	11.174	11.174	11.174	11.174	11.174
135.0	14.526	14.526	14.526	14.526	14.526	14.526	14.526
137.5	18.996	18.996	18.996	18.996	18.996	18.996	18.996
140.0	23.466	23.466	23.466	23.466	23.466	23.466	23.466
142.5	42.462	42.462	42.462	42.462	42.462	42.462	42.462
145.0	270.413	270.413	270.413	270.413	270.413	270.413	270.413
147.5	605.636	605.636	605.636	605.636	605.636	605.636	605.636
150.0	843.644	843.644	843.644	843.644	843.644	843.644	843.644
152.5	919.628	919.628	919.628	919.628	919.628	919.628	919.628
155.0	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875
157.5	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863
160.0	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924
162.5	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702
165.0	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577
167.5	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812
170.0	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987
172.5	6180.401	6180.401	6180.403	6180.403	6180.403	6180.403	6180.403
175.0	10984.157	10984.157	10984.160	10984.160	10984.160	10984.160	10984.160
177.5	19364.726	19364.727	19364.727	19364.727	19364.728	19364.728	19364.728
180.0	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1692.93	N.A.	35.00
0-30	2291.25	N.A.	47.40
0-40	2511.59	N.A.	51.90
0-60	2528.97	N.A.	52.30
0-80	2531.12	N.A.	52.30
0-90	2531.12	N.A.	52.30
10-90	1575.68	N.A.	32.60
20-40	818.66	N.A.	16.90
20-50	831.42	N.A.	17.20
40-70	19.05	N.A.	0.40
60-80	2.14	N.A.	0.00
70-80	0.48	N.A.	0.00
80-90	0.00	N.A.	0.00
90-110	0.44	N.A.	0.00
90-120	1.95	N.A.	0.00
90-130	6.16	N.A.	0.10
90-150	218.57	N.A.	4.50
90-180	2306.44	N.A.	47.70
110-180	2306.00	N.A.	47.70
0-180	4837.55	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	955.43
10-20	737.49
20-30	598.32
30-40	220.34
40-50	12.77
50-60	4.62
60-70	1.66
70-80	0.48
80-90	0.00
90-100	0.00
100-110	0.44
110-120	1.51
120-130	4.21
130-140	11.63
140-150	200.78
150-160	545.21
160-170	672.03
170-180	870.63

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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	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	101	98	96	93	94	92	89	87	79	77	76	67	66	65	56	56	55	50
2	96	90	86	82	89	85	81	78	74	71	69	64	62	61	54	53	53	48
3	90	84	78	74	84	79	74	71	69	66	64	61	58	57	52	51	50	47
4	85	78	72	68	80	73	69	65	65	62	59	58	55	53	51	49	48	45
5	81	73	67	63	76	69	64	60	62	58	55	55	53	51	49	47	46	43
6	77	68	62	58	72	65	60	56	59	55	52	53	50	48	47	46	44	42
7	73	64	59	55	69	61	56	53	56	52	49	51	48	46	46	44	43	40
8	70	61	55	51	66	58	53	50	53	50	47	49	46	44	44	42	41	39
9	67	58	52	49	63	56	51	47	51	47	45	47	44	42	43	41	40	38
10	64	55	50	46	61	53	48	45	49	45	43	45	43	41	42	40	39	37

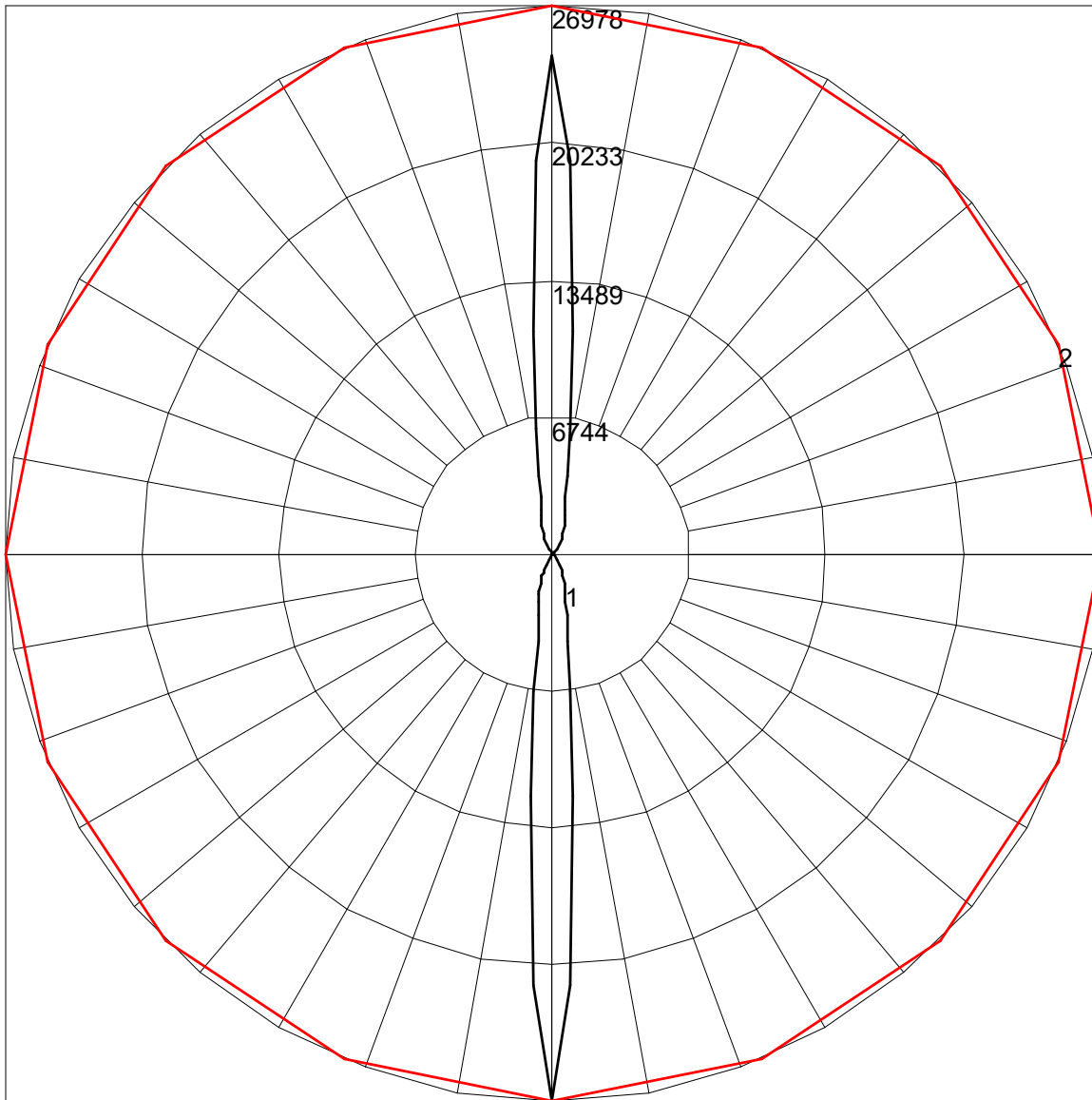
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : 192\_168\_37\_234-14\_22\_20-MERGED.IES**

**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	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	3H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	4H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	6H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	8H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	12H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
4H	2H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	3H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	4H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	6H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	8H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	12H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
8H	4H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	6H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	8H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	12H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
12H	4H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	6H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	8H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7

Maximum UGR = 5.7

POLAR GRAPH



Maximum Candela = 26977.72 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)