



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : 4DS-L16-9TC-DIM-UNV-RW-OF-WH.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [TEST]GEN FROM BALLABS TEST NO. 20321.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUE DATE] 16-APR-2018  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 4"SHORT HEATSINK 4"SQ CAST HOUSING DOWNLIGHT  
 [MORE] WHITE MIXING CHAMBER & 4"CAST WHITE REGRESS w/SOLITE LENS  
 [LUMCAT] 4DS-L16-9TC-DIM-UNV-RW-OF-WH  
 [LAMPCAT] TUNABLE COB LED  
 [ \_SEARCH\_SOURCETYPE] LED  
 [ \_SEARCH\_APPLICATION] Indoor, Classroom, Office, Downlight  
 [ \_SEARCH\_MOUNTING] Recessed

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1625
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	41
Total Luminaire Watts	40.1
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.02
Spacing Criterion (90-270)	1.02
Spacing Criterion (Diagonal)	1.06
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.33 ft
Luminous Width (90-270)	0.33 ft
Luminous Height	0.00 ft

**LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	30401	33905	30288
55	23407	22571	22989
65	15127	14182	14749
75	6793	7410	7102
85	3667	2751	3667

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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>
<b>0</b>	1240.175	1240.175	1240.175	1240.175	1240.175
<b>5</b>	1232.759	1232.759	1231.935	1233.583	1236.879
<b>10</b>	1209.686	1208.037	1213.806	1221.222	1226.166
<b>15</b>	1175.900	1175.076	1180.844	1190.733	1196.501
<b>20</b>	1131.402	1129.754	1137.170	1137.170	1130.578
<b>25</b>	991.316	1020.981	1065.479	1030.046	988.020
<b>30</b>	650.165	739.985	930.337	805.908	650.165
<b>35</b>	369.992	415.314	683.126	469.701	370.816
<b>40</b>	266.164	286.765	390.593	304.893	273.580
<b>45</b>	221.666	228.258	247.211	236.498	220.842
<b>50</b>	181.288	184.584	183.760	181.288	175.520
<b>55</b>	138.438	141.734	133.494	135.966	135.966
<b>60</b>	100.532	100.532	94.764	97.236	98.884
<b>65</b>	65.923	66.747	61.803	64.275	64.275
<b>70</b>	32.961	36.258	36.258	35.434	33.785
<b>75</b>	18.129	18.129	19.777	18.129	18.953
<b>80</b>	11.537	11.537	8.240	9.888	9.888
<b>85</b>	3.296	2.472	2.472	2.472	3.296
<b>90</b>	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	450.39	N.A.	27.70
0-30	905.79	N.A.	55.70
0-40	1225.33	N.A.	75.40
0-60	1534.15	N.A.	94.40
0-80	1620.74	N.A.	99.70
0-90	1624.94	N.A.	100.00
10-90	1507.78	N.A.	92.80
20-40	774.95	N.A.	47.70
20-50	960.02	N.A.	59.10
40-70	373.61	N.A.	23.00
60-80	86.58	N.A.	5.30
70-80	21.80	N.A.	1.30
80-90	4.20	N.A.	0.30
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1624.94	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	117.16
10-20	333.23
20-30	455.40
30-40	319.55
40-50	185.08
50-60	123.74
60-70	64.79
70-80	21.80
80-90	4.20
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

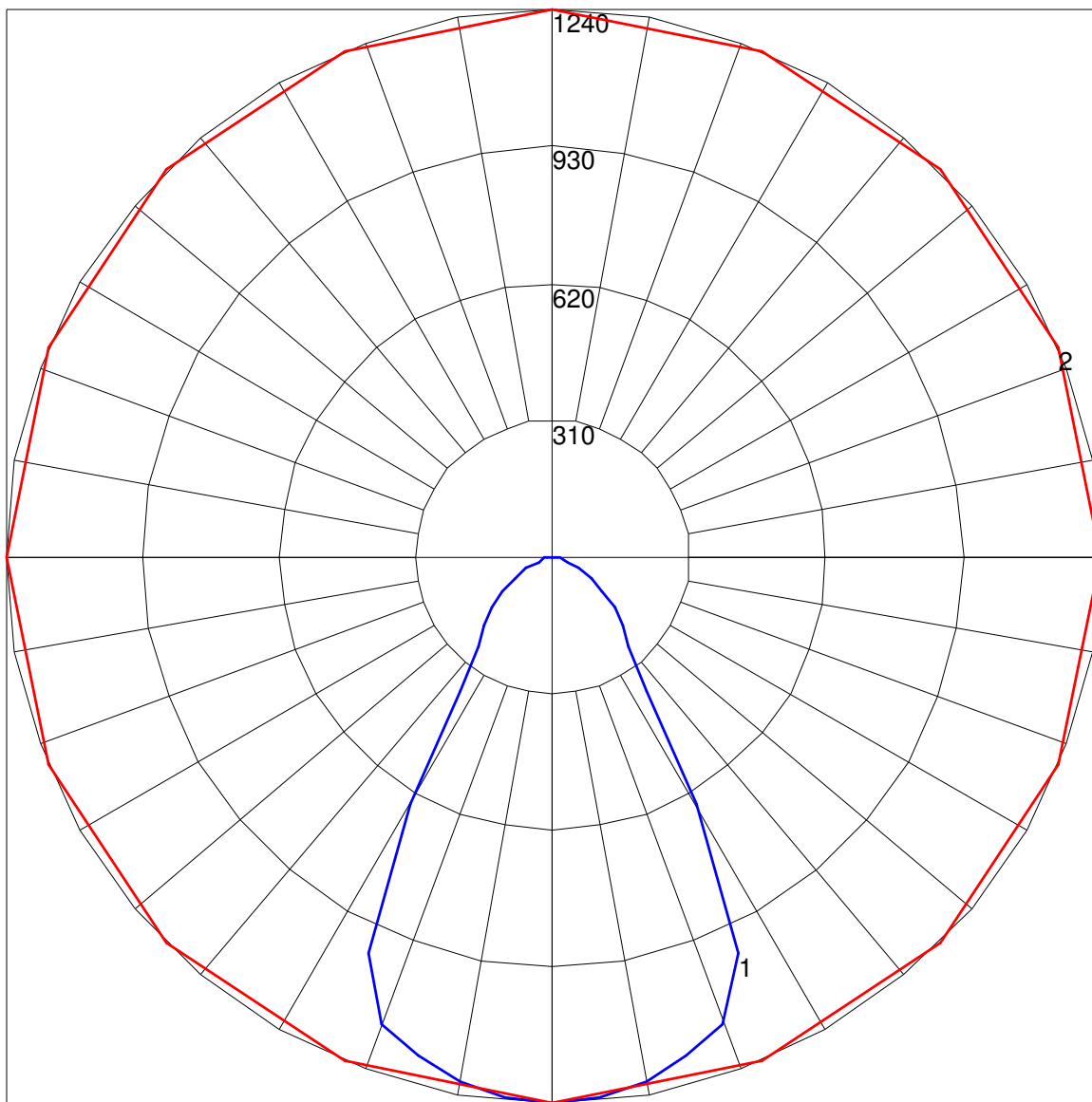
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	109	106	103	110	107	104	101	102	100	98	99	97	95	95	94	93	91
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	82
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75	74
4	92	83	77	72	90	82	76	71	80	74	70	78	73	69	76	72	69	67
5	87	77	70	65	85	76	69	64	74	68	64	72	67	63	70	66	63	61
6	81	71	64	59	80	70	64	59	69	63	58	67	62	58	66	61	57	56
7	77	66	59	54	75	65	59	54	64	58	54	63	57	53	61	57	53	51
8	72	61	55	50	71	61	54	50	60	54	49	59	53	49	58	53	49	47
9	69	57	51	46	67	57	50	46	56	50	46	55	50	46	54	49	46	44
10	65	54	47	43	64	53	47	43	53	47	43	52	46	43	51	46	42	41

POLAR GRAPH



Maximum Candela = 1240.175 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.)