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Indoor Distribution Test Report

Relevant Standards
IES LM-79-2008, ANSI C82.77-10-2014

Prepared For
H E Williams Inc
831 W Fairview Ave
PO Box 837
Carthage, MO 64836-0837
United States

Catalog Number
2DR-L12/9TW-DIM-UNV-OM-OF-CS-x-xx (4000K)
Order Number
13131414
Test Number
13131414.33

Test Date

2019-12-04

Prepared By

Derek Smarr, Technician

Approved By

Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: Aluminum housing and reflector, no lens enclosure
Lamp: 84 white LEDs
Mounting: Recessed
Ballast/Driver: eldoLED DUALdrive 561/S

Luminaire



Luminaire Characteristics

Luminous Diameter: 2.50 in.

Summary of Results

Total Luminaire Output:	1483 Lumens
Luminaire Efficacy:	54.7 lm/w
Maximum Candela:	3465 Candela

Test Conditions

Test Temperature:	25.3 °C
Voltage:	120.0 VAC
Current:	0.2305 A
Power:	27.11 W
Power Factor:	0.980
Frequency:	60 Hz
Current THD:	13.4 %

Laboratory results may not be representative of field performance
Ballast factors have not been applied



Distribution - Goniophotometer

Distribution Test Conditions

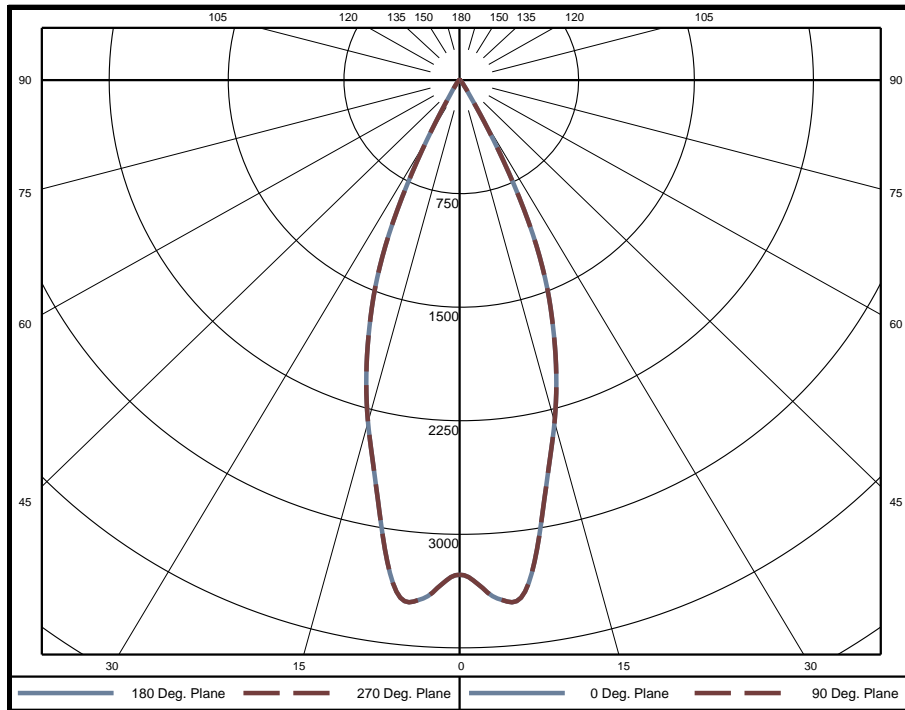
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.3 °C	120.0 VAC	0.2305 A	27.11 W	0.980	60 Hz	13.4 %

Summary of Results

Spacing Criteria
0-180: 0.67
90-270: 0.67

Total Lumen Output: 1483 Lumens
Luminaire Efficacy: 54.7 lm/w
Maximum Candela: 3465 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	81.2	5.5%	60-65	1.1	0.1%	120-125	0	0.0%
5-10	234.5	15.8%	65-70	0.7	0.0%	125-130	0	0.0%
10-15	309.2	20.8%	70-75	0.4	0.0%	130-135	0	0.0%
15-20	333.1	22.5%	75-80	0.2	0.0%	135-140	0	0.0%
20-25	292.0	19.7%	80-85	0.2	0.0%	140-145	0	0.0%
25-30	153.8	10.4%	85-90	0.1	0.0%	145-150	0	0.0%
30-35	38.8	2.6%	90-95	0	0.0%	150-155	0	0.0%
35-40	16.3	1.1%	95-100	0	0.0%	155-160	0	0.0%
40-45	9.9	0.7%	100-105	0	0.0%	160-165	0	0.0%
45-50	6.4	0.4%	105-110	0	0.0%	165-170	0	0.0%
50-55	3.5	0.2%	110-115	0	0.0%	170-175	0	0.0%
55-60	1.9	0.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1459	98.4%
0-60	1481	99.8%
0-90	1483	100.0%
90-180	0	0.0%



Candela Tabulation

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
	0	3267	3267	3267	3267	3267	3267	3267	3267	3267	3267	3267	3267	3267	3267	3267
	5	3457	3457	3457	3457	3457	3457	3457	3457	3457	3457	3457	3457	3457	3457	3457
	10	2973	2973	2973	2973	2973	2973	2973	2973	2973	2973	2973	2973	2973	2973	2973
	15	2328	2328	2328	2328	2328	2328	2328	2328	2328	2328	2328	2328	2328	2328	2328
	20	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730
	25	1034	1034	1034	1034	1034	1034	1034	1034	1034	1034	1034	1034	1034	1034	1034
	30	265	265	265	265	265	265	265	265	265	265	265	265	265	265	265
	35	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
	40	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
	45	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
	50	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
	55	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	60	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	65	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	70	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	75	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Average Luminance (cd/m²)

Horizontal Angle (Degrees)

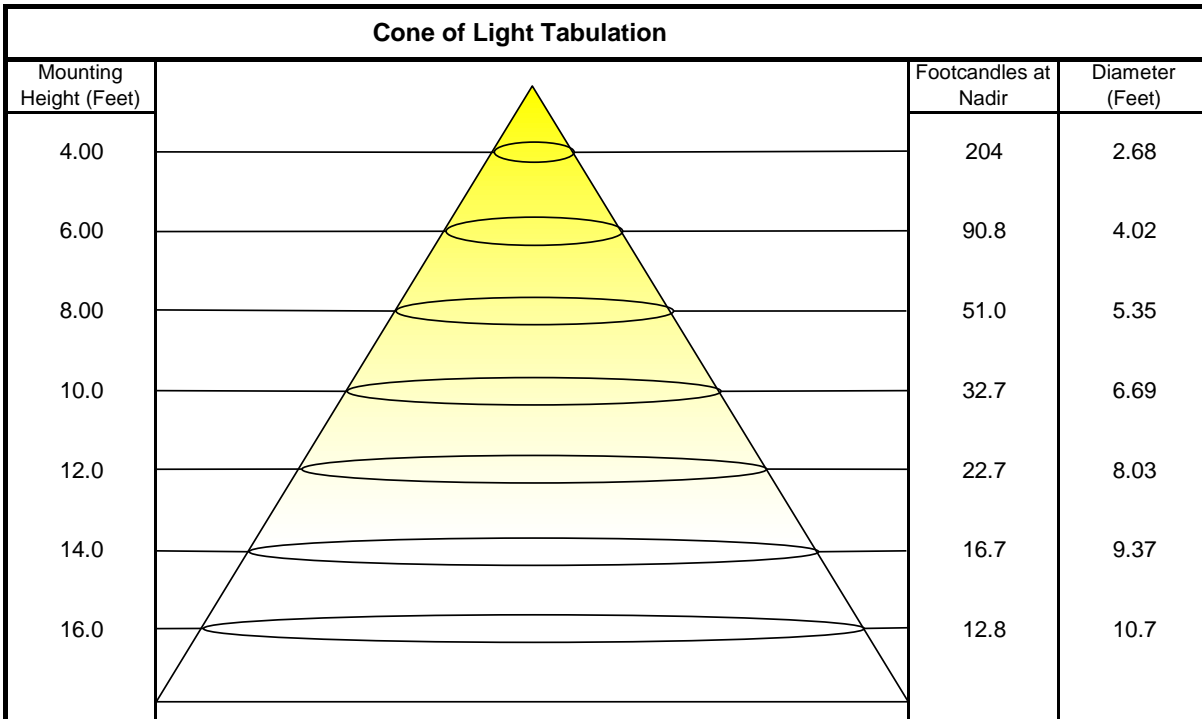
Vertical Angle (Degrees)	0	45	90
	0	1032000	1032000
	45	9317	9317
	55	3002	3002
	65	1274	1274
	75	741	741
	85	855	855



Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%																		
Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as percent of total lumen output delivered to the task surface **																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	115	112	110	108	112	110	108	107	106	105	103	102	101	100	99	98	97	96
2	110	106	103	100	108	104	102	99	101	99	97	98	96	95	96	94	93	91
3	106	101	97	94	104	100	96	93	97	94	91	95	92	90	93	90	89	87
4	102	96	92	88	100	95	91	88	93	89	87	91	88	86	89	87	85	83
5	98	92	87	84	97	91	86	83	89	85	83	88	84	82	86	83	81	80
6	95	88	83	80	94	87	83	79	86	82	79	84	81	78	83	80	78	77
7	91	84	79	76	90	83	79	76	82	78	75	81	78	75	80	77	75	74
8	88	81	76	73	87	80	76	73	79	75	72	78	75	72	77	74	72	71
9	85	78	73	70	84	77	73	70	76	72	69	76	72	69	75	71	69	68
10	82	75	70	67	82	74	70	67	74	70	67	73	69	67	72	69	66	65

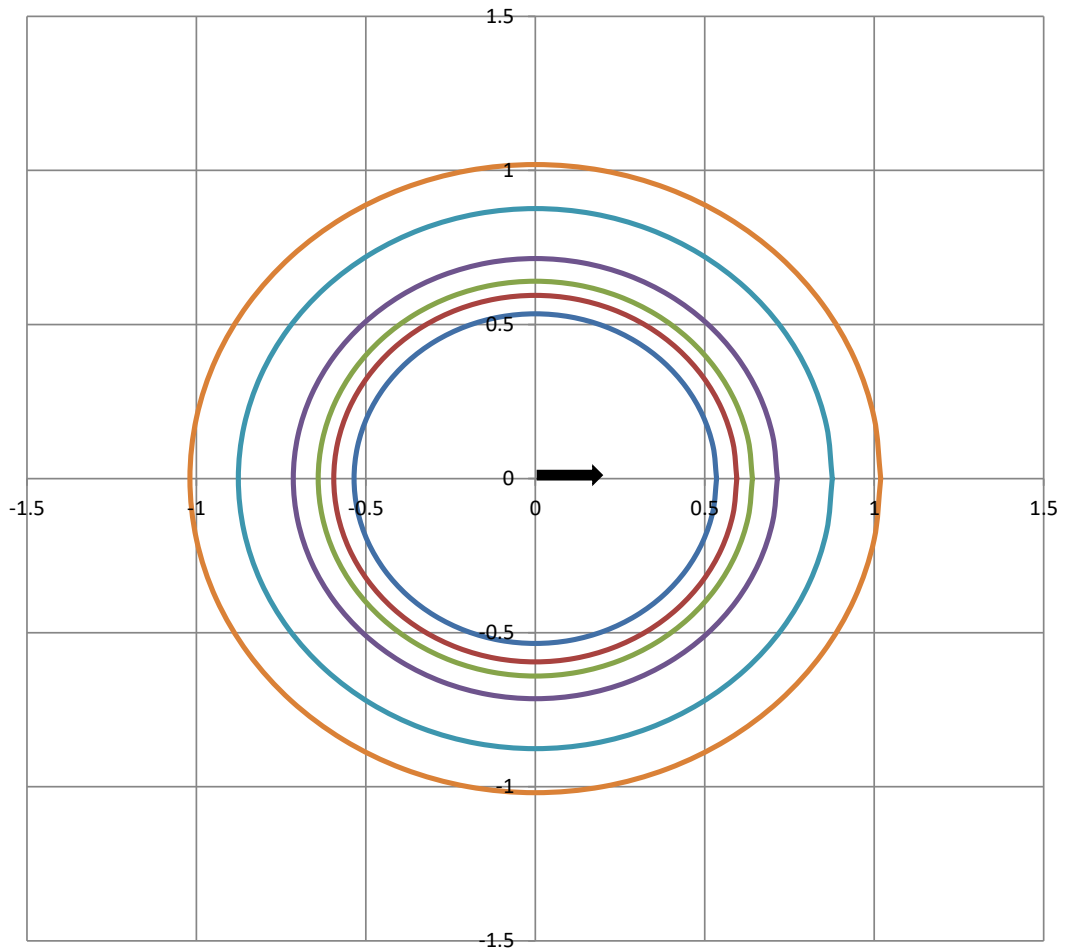
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	3267 Candela
Central Cone Intensity:	3359 Candela
Beam Flux:	1005.8 Lumens
Beam Angle (0-180):	41.6 Degrees
Beam Angle (90-270):	41.6 Degrees
Field Angle (0-180):	58.9 Degrees
Field Angle (90-270):	58.9 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

5 fc 2 fc 1 fc 0.5 fc 0.2 fc 0.1 fc