



UL Verification Services Inc.
7036 Snowdrift Road
Allentown, PA 18106
610-774-1300



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-OW-OF-CS-x-xx (4000K)
Order Number
13131414
Test Number
13131414.32

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:	1470 Lumens
Luminaire Efficacy:	54.2 lm/w
Maximum Candela:	1331 Candela

Test Conditions

Test Temperature:	25.4 °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

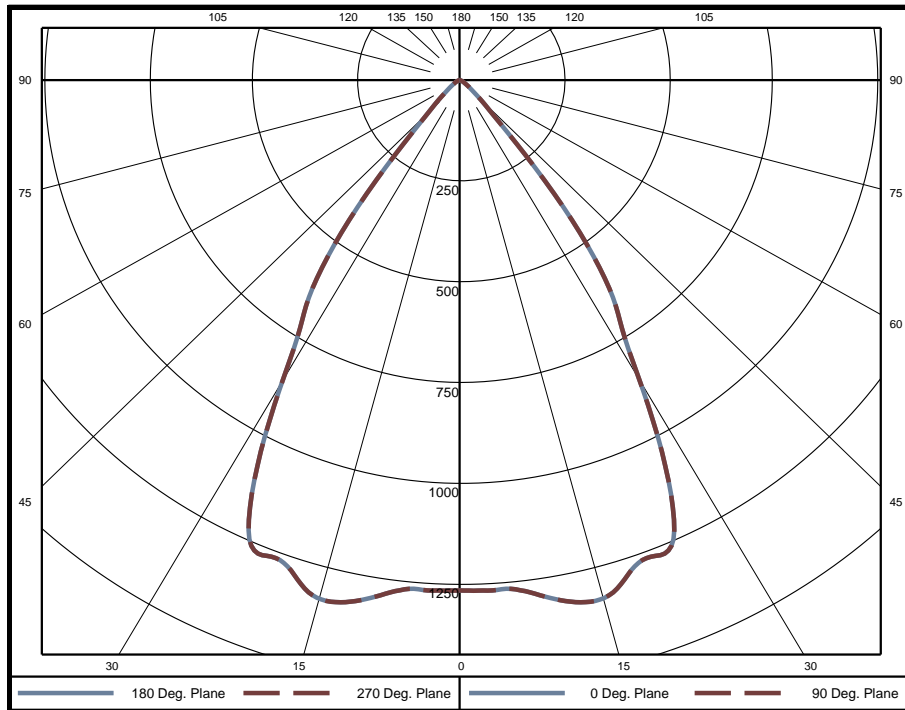
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.4 °C	120.0 VAC	0.2305 A	27.11 W	0.980	60 Hz	13.4 %

Summary of Results

Spacing Criteria
0-180: 1.10
90-270: 1.10

Total Lumen Output: 1470 Lumens
Luminaire Efficacy: 54.2 lm/w
Maximum Candela: 1331 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	30.3	2.1%	60-65	4.8	0.3%	120-125	0	0.0%
5-10	92.0	6.3%	65-70	2.6	0.2%	125-130	0	0.0%
10-15	157.1	10.7%	70-75	1.2	0.1%	130-135	0	0.0%
15-20	213.7	14.5%	75-80	0.5	0.0%	135-140	0	0.0%
20-25	263.7	17.9%	80-85	0.2	0.0%	140-145	0	0.0%
25-30	260.1	17.7%	85-90	0.0	0.0%	145-150	0	0.0%
30-35	209.0	14.2%	90-95	0	0.0%	150-155	0	0.0%
35-40	142.9	9.7%	95-100	0	0.0%	155-160	0	0.0%
40-45	50.3	3.4%	100-105	0	0.0%	160-165	0	0.0%
45-50	22.1	1.5%	105-110	0	0.0%	165-170	0	0.0%
50-55	12.1	0.8%	110-115	0	0.0%	170-175	0	0.0%
55-60	7.3	0.5%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1369	93.1%
0-60	1461	99.4%
0-90	1470	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	1265	1265	1265	1265	1265	1265	1265	1265	1265	1265	1265	1265	1265	1265	1265	1265
5	1266	1266	1266	1266	1266	1266	1266	1266	1266	1266	1266	1266	1266	1266	1266	1266
10	1307	1307	1307	1307	1307	1307	1307	1307	1307	1307	1307	1307	1307	1307	1307	1307
15	1329	1329	1329	1329	1329	1329	1329	1329	1329	1329	1329	1329	1329	1329	1329	1329
20	1266	1266	1266	1266	1266	1266	1266	1266	1266	1266	1266	1266	1266	1266	1266	1266
25	1202	1202	1202	1202	1202	1202	1202	1202	1202	1202	1202	1202	1202	1202	1202	1202
30	844	844	844	844	844	844	844	844	844	844	844	844	844	844	844	844
35	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600
40	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245
45	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81
50	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
55	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
60	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
65	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
70	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
75	1	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	0
85	0	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	0
95	0	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	0
105	0	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	0
115	0	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	0
125	0	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	0
135	0	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	0
145	0	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	0
155	0	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	0
165	0	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	0
175	0	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	0

Average Luminance (cd/m²)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)

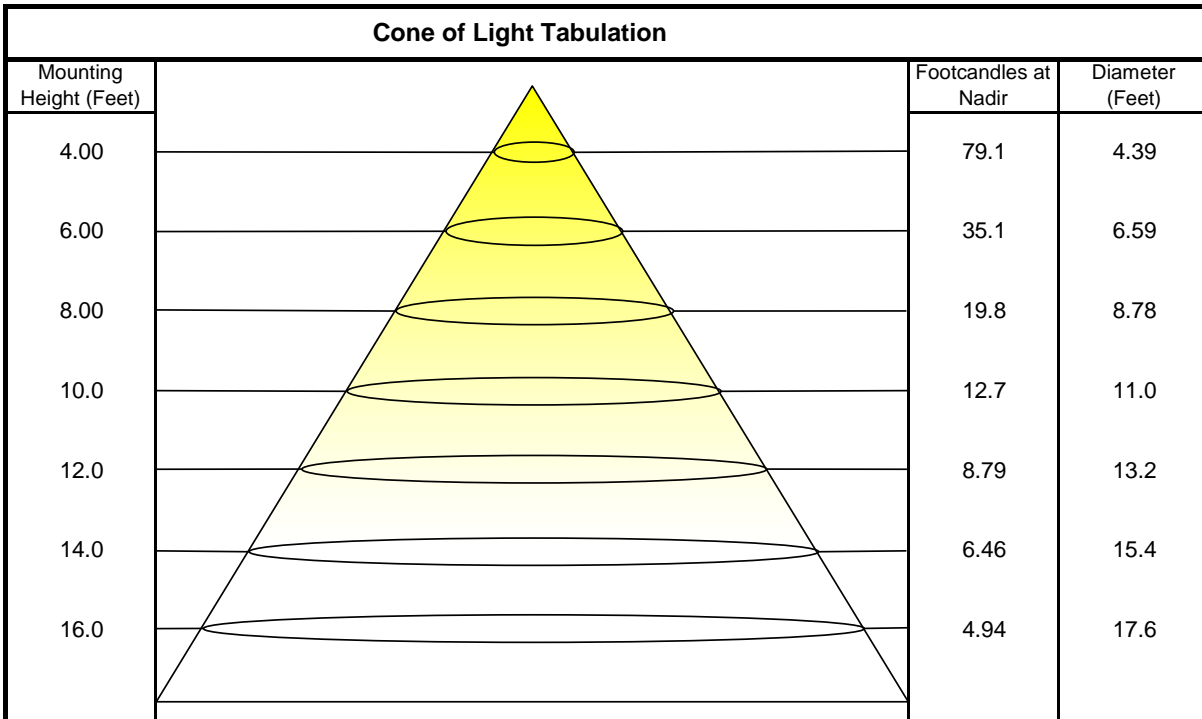
	0	45	90
0	399600	399600	399600
45	36130	36130	36130
55	11300	11300	11300
65	5539	5539	5539
75	1657	1657	1657
85	526	526	526



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	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	86
3	102	95	90	86	100	94	89	86	91	87	84	89	86	83	87	84	82	80
4	97	89	83	79	95	88	83	78	86	81	78	84	80	77	82	78	76	74
5	92	83	77	73	90	82	76	72	80	75	72	79	74	71	77	73	70	69
6	87	78	71	67	85	77	71	67	75	70	66	74	69	66	73	69	65	64
7	82	73	67	62	81	72	66	62	71	66	62	70	65	61	68	64	61	60
8	78	68	62	58	77	68	62	58	67	61	58	66	61	57	65	60	57	56
9	74	64	58	54	73	64	58	54	63	57	54	62	57	54	61	57	53	52
10	71	61	55	51	69	60	54	51	59	54	50	58	54	50	58	53	50	49

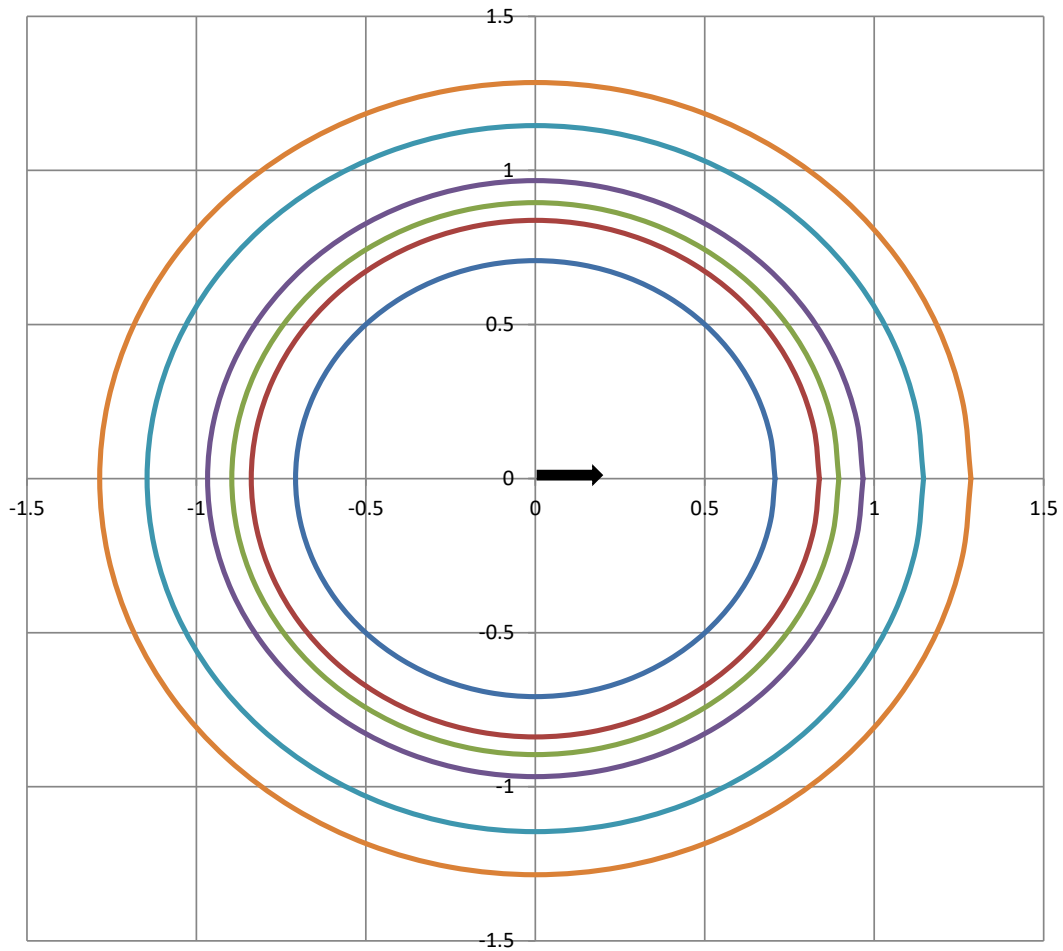
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	1265 Candela
Central Cone Intensity:	1266 Candela
Beam Flux:	1200.6 Lumens
Beam Angle (0-180):	68.7 Degrees
Beam Angle (90-270):	68.7 Degrees
Field Angle (0-180):	84.9 Degrees
Field Angle (90-270):	84.9 Degrees





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