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Indoor Distribution Test Report

Relevant Standards
IES LM-79-2008
ANSI C82.77-2002

Prepared For
Mercury Lighting

John Andrews
20 Audrey Pl
Fairfield, NJ 07004-3416
United States

Catalog Number
LHBT-4-32000HL-40K-U80TW-4D-UNI-347WATT

Order Number
11185132
Test Number
1223871

Test Date

2016-03-16

Prepared By

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Approved By

Timothy Wagner, Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: White steel housing, white steel reflectors, no enclosure
Lamp: 320 white LEDs, four boards with 80 LEDs each
Mounting: Recessed
Ballast/Driver: Four Everline D21CC80UNVTW-D
Reflectivity: 88.8

Luminaire



Luminaire Characteristics

Luminous Length: 45.00 in.
Luminous Width: 20.75 in.
Luminous Height: 0.75 in.

Summary of Results

Total Luminaire Output: 36460 Lumens
Luminaire Efficacy: 108.3 lm/w
Maximum Candela: 13326 Candela

Test Conditions

Test Temperature: 25.1 °C
Voltage: 120.0 VAC
Current: 2.810 A
Power: 336.8 W
Power Factor: 0.998
Frequency: 60 Hz
Current THD: 5.22 %

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
25.1 °C	120.0 VAC	2.810 A	336.8 W	0.998	60 Hz	5.22 %

Summary of Results

Spacing Criteria

0-180: 1.29

90-270: 1.29

Total Lumen Output:

36460 Lumens

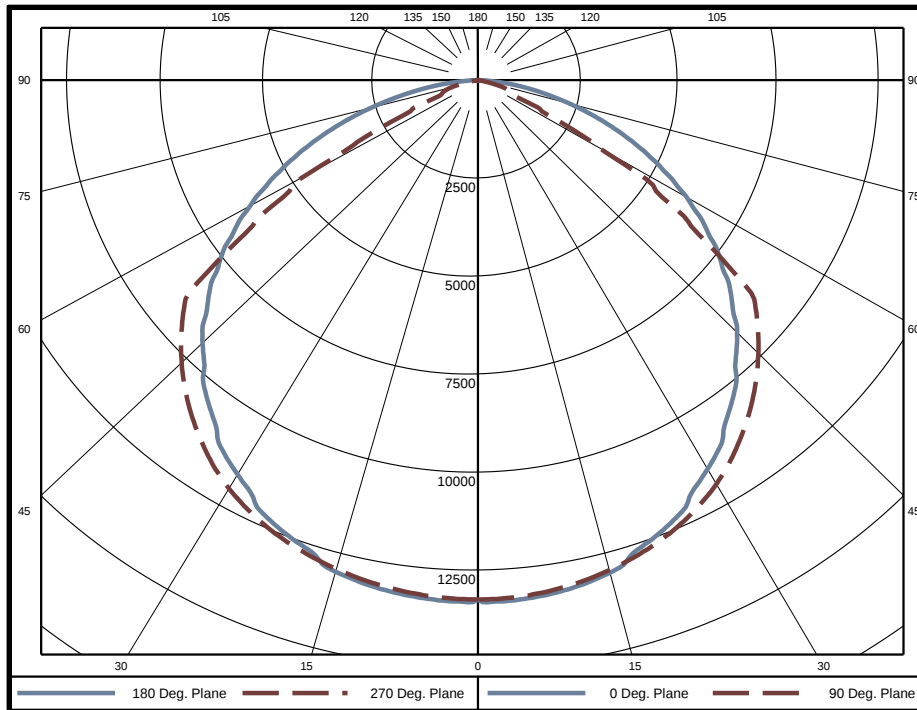
Luminaire Efficacy:

108.3 lm/w

Maximum Candela:

13326 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	317	0.9%	60-65	2216	6.1%	120-125	0	0.0%
5-10	942	2.6%	65-70	1428	3.9%	125-130	0	0.0%
10-15	1544	4.2%	70-75	894	2.5%	130-135	0	0.0%
15-20	2102	5.8%	75-80	453	1.2%	135-140	0	0.0%
20-25	2600	7.1%	80-85	148	0.4%	140-145	0	0.0%
25-30	3019	8.3%	85-90	39	0.1%	145-150	0	0.0%
30-35	3354	9.2%	90-95	0	0.0%	150-155	0	0.0%
35-40	3571	9.8%	95-100	0	0.0%	155-160	0	0.0%
40-45	3677	10.1%	100-105	0	0.0%	160-165	0	0.0%
45-50	3670	10.1%	105-110	0	0.0%	165-170	0	0.0%
50-55	3499	9.6%	110-115	0	0.0%	170-175	0	0.0%
55-60	2986	8.2%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	17449	47.9%
0-60	31281	85.8%
0-90	36459	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	13260	13260	13260	13260	13260	13260	13260	13260	13260	13260	13260	13260	13260	13260	13260
	5	13290	13200	13210	13220	13210	13220	13210	13200	13290	13200	13210	13220	13210	13220	13210
	10	13190	13090	13100	13110	13100	13110	13100	13090	13190	13090	13100	13110	13100	13110	13090
	15	12990	12900	12910	12920	12910	12920	12910	12900	12990	12900	12910	12920	12910	12920	12900
	20	12530	12440	12630	12660	12670	12660	12630	12440	12530	12440	12630	12660	12670	12660	12630
	25	12130	12050	12130	12340	12340	12340	12130	12050	12130	12050	12130	12340	12340	12340	12130
	30	11480	11410	11680	11900	11910	11900	11680	11410	11480	11410	11680	11900	11910	11900	11680
	35	10770	10830	11090	11340	11330	11340	11090	10830	10770	10830	11090	11340	11330	11340	11090
	40	10070	10050	10350	10610	10660	10610	10350	10050	10070	10050	10350	10610	10660	10610	10350
	45	9182	9213	9523	9774	9907	9774	9523	9213	9182	9213	9523	9774	9907	9774	9523
	50	8239	8336	8657	8934	9052	8934	8657	8336	8239	8336	8657	8934	9052	8934	8657
	55	7194	7371	7645	7262	6502	7262	7645	7371	7194	7371	7645	7262	6502	7262	7645
	60	6081	6301	6547	4809	3679	4809	6547	6301	6081	6301	6547	4809	3679	4809	6547
	65	4890	5127	4117	1753	1648	1753	4117	5127	4890	5127	4117	1753	1648	1753	4117
	70	3662	3898	1593	873	859	873	1593	3898	3662	3898	1593	873	859	873	1593
	75	2462	2266	692	612	514	612	692	2266	2462	2266	692	612	514	612	692
	80	1372	648	342	131	64	131	342	648	1372	648	342	131	64	131	342
	85	439	206	78	47	24	47	78	206	439	206	78	47	24	47	78
	90	6	24	27	27	25	27	27	24	6	24	27	27	25	27	27
	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	22000	22000
	45	21560	23260
	55	20820	18820
	65	19210	6475
	75	15790	3296
	85	8354	461



Utilization of Lumens - 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 Lumens delivered to the task surface **																	
0	43405	43405	43405	43405	42395	42395	42395	42395	40511	40511	40511	38787	38787	38787	37204	37204	37204	36460
1	40091	38532	37136	35878	39120	37714	36446	35296	36180	35140	34187	34772	33928	33147	33474	32799	32168	31432
2	36681	33903	31604	29670	35748	33224	31112	29320	31949	30176	28643	30774	29296	27998	29687	28469	27382	26626
3	33551	29928	27124	24890	32670	29360	26761	24668	28290	26067	24236	27301	25409	23819	26383	24785	23417	22651
4	30763	26582	23522	21184	29944	26105	23247	21037	25203	22718	20751	24366	22215	20472	23587	21734	20202	19437
5	28300	23772	20608	18272	27548	23368	20395	18172	22604	19984	17975	21893	19591	17783	21229	19214	17595	16842
6	26127	21400	18228	15951	25441	21057	18060	15880	20407	17734	15741	19799	17421	15604	19231	17120	15469	14735
7	24211	19389	16265	14075	23587	19096	16129	14023	18539	15867	13921	18018	15614	13820	17528	15369	13721	13011
8	22520	17676	14630	12537	21955	17424	14520	12498	16945	14305	12422	16495	14098	12346	16071	13897	12271	11587
9	21023	16205	13255	11262	20510	15988	13164	11232	15573	12986	11173	15183	12814	11115	14814	12648	11058	10400
10	19694	14935	12088	10192	19230	14747	12012	10169	14386	11864	10123	14046	11720	10078	13724	11580	10033	9402

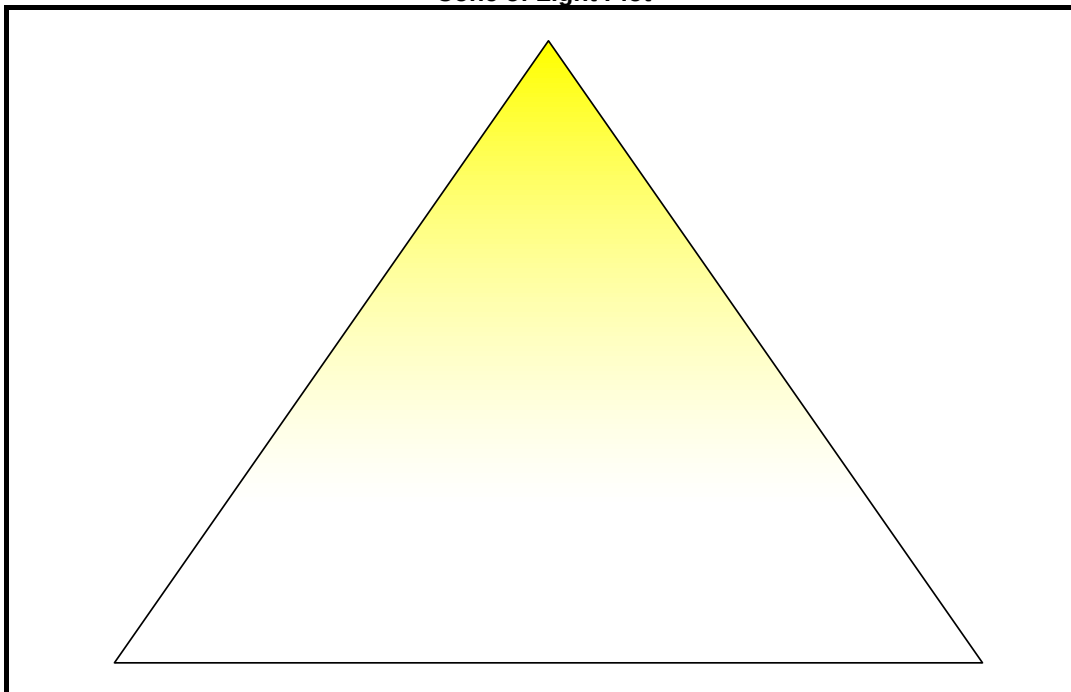
Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	828	5.24
6.00	368	7.86
8.00	207	10.5
10.0	133	13.1
12.0	92.1	15.7
14.0	67.6	18.3
16.0	51.8	21.0

Beam and Field Information

CIE Type:	Direct
Center Beam Intensity:	13260 Candela
Central Cone Intensity:	13245 Candela
Beam Flux:	29969.1 Lumens
Beam Angle (0-180):	115.3 Degrees
Beam Angle (90-270):	109.5 Degrees
Field Angle (0-180):	160.5 Degrees
Field Angle (90-270):	131.0 Degrees

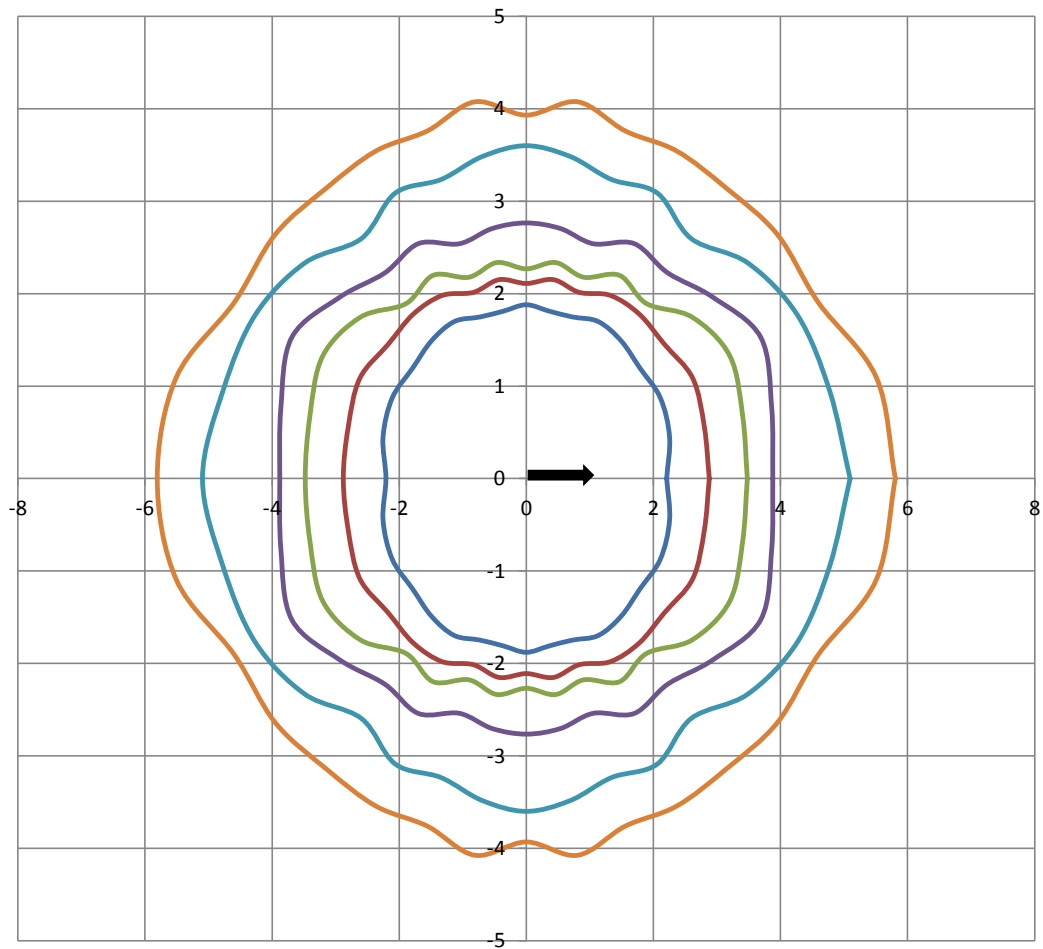
Cone of Light Plot





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