



IES INDOOR REPORT

PHOTOMETRIC FILENAME : FLX-19.2-1-3528-24-IP20-27K ALU-017R5-DOP_IESNA95.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-1995
[TEST] 01
[TESTLAB] LED-123 LAB
[TESTDATE] 12-15-2020
[ISSUEDATE] XX-XXX-1995
[NEARFIELD]
[LAMPPOSITION] 0,0
[OTHER] LED123
[MANUFAC] LED123
[LUMCAT] FLX-19.2-1-3528-24-IP20-27K
[LUMINAIRE] ALU-017R5-DOP
[LAMPCAT] 1
[LAMP] 3528 240LED CRI90 PCB 10MM
[BALLAST] DC24V

CHARACTERISTICS

Lumens Per Lamp	637.6 (1 lamp)
Total Lamp Lumens	637.6
Luminaire Lumens	985
Total Luminaire Efficiency	154 %
Luminaire Efficacy Rating (LER)	53
Total Luminaire Watts	18.7
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.34
Spacing Criterion (90-270)	1.94
Spacing Criterion (Diagonal)	1.46
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.00 m
Luminous Width (90-270)	0.04 m
Luminous Height	0.00 m



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5747	9028	10565
55	5755	10509	12798
65	5805	13025	16526
75	6037	18130	23055
85	8275	42720	60814

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CANDELA TABULATION

	<u>0</u>	<u>30</u>	<u>60</u>	<u>90</u>	<u>120</u>	<u>150</u>	<u>180</u>	<u>210</u>	<u>240</u>	<u>270</u>
0	221.258	221.258	221.258	221.258	221.258	221.258	221.258	221.258	221.258	221.258
5	225.980	231.230	233.860	235.260	232.060	228.350	222.140	211.780	203.330	201.860
10	224.580	237.820	246.590	249.660	243.840	233.340	216.960	199.680	186.750	184.260
15	221.500	242.500	257.790	262.780	254.020	236.290	209.540	185.860	169.090	165.760
20	216.130	246.020	266.940	273.980	262.140	237.060	200.190	170.750	151.040	147.140
25	208.580	246.400	273.860	283.070	268.030	235.840	189.310	155.140	133.440	129.280
30	199.740	244.540	279.100	290.240	271.940	232.380	176.640	138.500	115.780	111.680
35	188.540	241.660	282.620	295.360	273.790	226.880	162.620	121.600	98.880	95.040
40	176.510	235.970	283.780	298.180	273.540	219.780	147.780	105.090	83.260	80.000
45	162.620	228.480	282.430	298.940	271.170	211.580	131.710	88.450	68.350	65.410
50	147.780	220.100	278.910	297.470	266.880	201.220	114.820	72.450	54.910	53.440
55	132.100	209.220	273.220	293.760	260.610	189.760	97.790	57.660	43.390	42.690
60	115.330	197.950	265.540	287.810	252.290	177.150	80.900	43.840	33.280	33.280
65	98.180	184.190	256.380	279.490	242.430	163.330	62.210	31.740	24.830	25.340
70	80.510	170.110	243.330	264.580	230.720	148.220	45.570	21.950	17.540	18.820
75	62.530	154.240	221.310	238.780	209.790	132.100	29.380	14.270	11.900	13.120
80	45.060	137.410	191.620	224.190	178.240	115.580	15.230	8.960	8.060	9.660
85	28.860	120.580	177.410	212.100	162.750	98.180	5.180	6.020	6.340	7.360
90	17.020	102.910	173.060	195.200	159.360	81.090	4.100	4.480	4.800	5.700
95	5.570	75.970	138.240	177.090	122.430	55.940	4.030	3.710	3.780	4.540
100	3.580	54.850	123.650	159.810	110.270	39.490	1.980	3.650	3.520	3.900
105	2.880	46.140	115.260	142.400	102.850	31.740	1.730	3.520	3.650	3.970
110	2.370	35.580	100.670	123.330	89.280	21.700	1.860	3.580	3.710	4.030
115	2.300	24.190	83.390	102.460	72.700	11.780	2.050	3.580	3.780	4.100
120	2.370	14.020	64.000	81.280	54.980	4.290	2.180	3.460	3.840	4.160
125	2.430	6.780	47.230	60.860	38.530	1.920	2.300	3.460	3.970	4.220
130	2.690	2.750	30.140	41.540	23.100	1.920	2.500	3.460	3.970	4.220
135	2.750	1.980	17.020	24.700	10.620	2.050	2.620	3.520	3.900	4.220
140	2.880	2.110	8.000	11.460	4.480	2.180	2.750	3.580	3.840	4.220
145	3.010	2.300	3.390	4.420	2.750	2.370	2.880	3.580	3.840	4.220
150	3.140	2.430	2.880	2.180	2.750	2.500	3.010	3.650	3.780	4.160
155	3.200	2.620	2.940	2.370	2.880	2.690	3.140	3.650	3.780	4.100
160	3.330	2.750	3.070	2.500	3.010	2.820	3.200	3.650	3.710	3.970
165	3.390	2.940	3.200	2.750	3.140	3.010	3.330	3.580	3.650	3.900
170	3.460	3.070	3.330	2.940	3.260	3.140	3.390	3.580	3.520	3.780
175	3.520	3.200	3.460	3.200	3.390	3.260	3.460	3.520	3.460	3.650
180	3.434	3.434	3.434	3.434	3.434	3.434	3.434	3.434	3.434	3.434

Vert. Horizontal Angles

	<u>300</u>	<u>330</u>	<u>360</u>
0	221.258	221.258	221.258
5	203.330	211.900	225.980
10	187.460	201.150	224.580
15	170.370	189.310	221.500
20	152.900	175.300	216.130
25	136.000	160.640	208.580
30	118.270	145.020	199.740
35	101.310	128.320	188.540
40	85.500	112.130	176.510
45	70.270	94.980	162.620
50	56.640	78.140	147.780
55	44.800	62.530	132.100
60	34.370	47.680	115.330
65	25.600	34.560	98.180
70	18.110	23.870	80.510
75	12.290	15.360	62.530
80	8.130	9.600	45.060

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85	6.530	6.340	28.860
90	4.930	4.860	17.020
95	3.840	4.160	5.570
100	3.580	3.900	3.580
105	3.650	3.580	2.880
110	3.710	3.330	2.370
115	3.710	3.200	2.300
120	3.710	3.200	2.370
125	3.780	3.330	2.430
130	3.780	3.390	2.690
135	3.840	3.460	2.750
140	3.840	3.520	2.880
145	3.840	3.520	3.010
150	3.840	3.520	3.140
155	3.780	3.580	3.200
160	3.710	3.580	3.330
165	3.650	3.520	3.390
170	3.520	3.520	3.460
175	3.460	3.460	3.520
180	3.434	3.434	3.434

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Zone	Lumens	%Lamp	%Fixt
0-20	81.31	12.80	8.30
0-30	174.33	27.30	17.70
0-40	290.08	45.50	29.50
0-60	544.70	85.40	55.30
0-80	760.97	119.30	77.30
0-90	837.89	131.40	85.10
10-90	816.95	128.10	83.00
20-40	208.77	32.70	21.20
20-50	335.94	52.70	34.10
40-70	372.56	58.40	37.80
60-80	216.27	33.90	22.00
70-80	98.33	15.40	10.00
80-90	76.92	12.10	7.80
90-110	96.45	15.10	9.80
90-120	122.76	19.30	12.50
90-130	136.33	21.40	13.80
90-150	144.08	22.60	14.60
90-180	146.83	23.00	14.90
110-180	50.39	7.90	5.10
0-180	984.72	154.40	100.00

Total Luminaire Efficiency = 154.40%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	20.94
10-20	60.37
20-30	93.02
30-40	115.76
40-50	127.17
50-60	127.45
60-70	117.95
70-80	98.33
80-90	76.92
90-100	56.13
100-110	40.32
110-120	26.31
120-130	13.57
130-140	5.50
140-150	2.25
150-160	1.49
160-170	0.94
170-180	0.33

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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	178	178	178	178	172	172	172	172	159	159	159	147	147	147	136	136	136	131
1	158	148	140	132	151	142	135	128	131	125	120	121	116	112	112	108	105	99
2	142	127	114	104	135	122	110	101	112	103	95	104	96	89	96	89	84	79
3	128	110	96	84	122	105	92	82	97	87	78	90	81	73	83	76	69	65
4	116	96	81	70	111	93	79	68	86	74	65	79	70	62	73	65	58	54
5	107	85	71	60	102	82	68	58	76	64	55	71	61	53	66	57	50	46
6	98	76	62	51	94	74	60	50	69	57	48	64	53	46	59	50	43	40
7	91	69	55	45	87	67	53	44	62	50	42	58	48	40	54	45	38	35
8	84	63	49	40	81	61	48	39	57	45	37	53	43	36	49	41	34	31
9	79	57	44	35	75	55	43	35	52	41	33	49	39	32	46	37	31	27
10	74	53	40	32	70	51	39	31	48	37	30	45	36	29	42	34	28	25

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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

X=2H	Y=2H	17.3	18.7	17.8	19.3	20.0	22.2	23.6	22.8	24.2	24.9
	3H	19.5	20.8	20.1	21.4	22.1	25.5	26.8	26.1	27.4	28.1
	4H	20.4	21.7	21.0	22.3	23.0	27.1	28.4	27.7	29.0	29.7
	6H	21.3	22.4	21.9	23.1	23.8	28.8	30.0	29.5	30.6	31.4
	8H	21.6	22.8	22.3	23.4	24.1	29.8	30.9	30.4	31.6	32.3
	12H	22.0	23.1	22.6	23.7	24.5	30.9	32.0	31.6	32.6	33.4

UGR Viewed Endwise

4H	2H	18.8	20.0	19.4	20.6	21.3	22.8	24.1	23.4	24.7	25.4
	3H	21.3	22.4	21.9	23.0	23.8	26.5	27.6	27.1	28.2	28.9
	4H	22.4	23.4	23.1	24.1	24.9	28.3	29.3	28.9	29.9	30.7
	6H	23.5	24.4	24.1	25.1	25.8	30.2	31.1	30.9	31.8	32.5
	8H	23.9	24.8	24.6	25.5	26.2	31.3	32.1	31.9	32.8	33.6
	12H	24.4	25.1	25.1	25.8	26.6	32.6	33.3	33.2	34.0	34.8

8H	4H	23.7	24.6	24.4	25.3	26.0	28.7	29.5	29.4	30.2	31.0
	6H	25.2	25.9	25.9	26.6	27.4	30.9	31.6	31.6	32.3	33.1
	8H	25.9	26.5	26.6	27.2	28.0	32.2	32.8	32.9	33.6	34.4
	12H	26.5	27.1	27.2	27.8	28.7	33.7	34.3	34.4	35.0	35.9

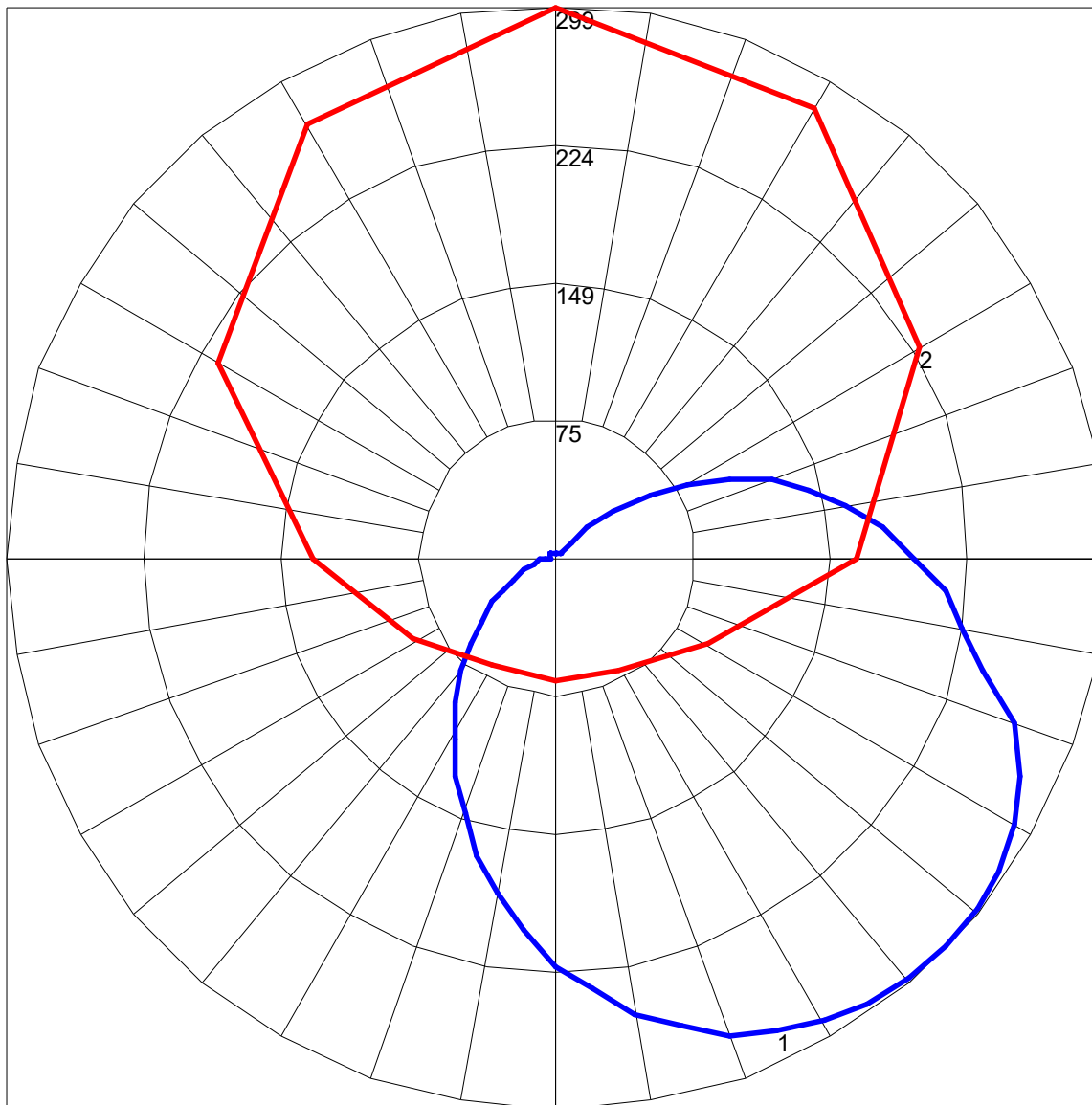
12H	4H	24.1	24.9	24.8	25.6	26.4	28.8	29.5	29.5	30.2	31.0
	6H	25.8	26.4	26.5	27.1	27.9	31.1	31.7	31.8	32.4	33.2
	8H	26.6	27.2	27.3	27.9	28.8	32.5	33.0	33.2	33.7	34.6

Maximum UGR = 35.9

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POLAR GRAPH



Maximum Candela = 298.94 Located At Horizontal Angle = 90, Vertical Angle = 45

1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)

2 - Horizontal Cone Through Vertical Angle (45) (Through Max. Cd.)