



IES INDOOR REPORT

PHOTOMETRIC FILENAME : FLX-14.4-10MM-3528-24-IP20-27K ALU-013-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-14.4-10MM-3528-24-IP20-27K
[LUMINAIRE] ALU-013-DOP
[LAMPCAT] 1
[LAMP] 3528 180LED CRI90 PCB 10MM
[BALLAST] DC24V

CHARACTERISTICS

Lumens Per Lamp	721.3 (1 lamp)
Total Lamp Lumens	721.3
Luminaire Lumens	825
Total Luminaire Efficiency	114 %
Luminaire Efficacy Rating (LER)	57
Total Luminaire Watts	14.4
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.30
Spacing Criterion (90-270)	1.86
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	5054	7673	9147
55	4954	8769	10948
65	4880	10628	13958
75	4813	14421	19194
85	5408	32277	49313

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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	193.988	193.988	193.988	193.988	193.988	193.988	193.988	193.988	193.988	193.988
5	197.060	200.900	202.880	204.480	202.240	199.810	196.030	187.900	180.670	179.140
10	194.750	204.740	211.900	215.300	211.650	204.350	192.580	178.880	167.680	164.930
15	191.870	207.870	219.070	224.380	219.200	206.980	187.970	168.700	153.730	150.020
20	185.730	208.320	225.020	232.320	225.220	208.900	181.120	157.500	139.580	135.170
25	177.860	206.400	229.950	238.460	229.570	207.940	172.220	144.510	124.990	120.000
30	170.050	202.880	232.580	242.880	232.260	204.990	162.880	130.820	110.270	105.090
35	159.300	199.040	232.900	245.630	233.980	200.320	151.490	117.180	95.870	91.070
40	148.030	192.320	231.420	246.720	233.340	195.390	139.330	102.270	81.660	77.440
45	135.870	184.190	228.350	245.890	230.660	187.900	125.700	88.000	67.970	65.150
50	122.430	175.550	223.550	243.260	226.110	178.560	112.130	73.220	55.810	53.630
55	108.030	165.380	217.020	238.720	219.840	169.150	96.900	59.010	44.670	43.260
60	93.700	153.600	209.220	232.510	212.160	158.080	81.410	45.820	34.820	34.430
65	78.400	141.310	200.190	224.260	202.820	145.090	66.180	33.790	26.560	26.750
70	62.780	127.810	189.250	209.860	191.420	132.420	49.790	23.550	18.940	20.100
75	47.360	113.220	170.560	188.860	173.500	117.890	33.920	15.620	12.990	14.140
80	31.810	98.940	143.100	174.980	147.520	102.980	19.900	9.790	8.770	10.500
85	17.920	83.390	130.500	163.390	133.820	87.810	8.640	6.270	6.780	7.680
90	8.060	68.990	126.530	149.440	129.340	72.830	2.110	4.480	4.990	5.760
95	4.990	49.090	96.830	134.660	100.160	51.650	2.300	3.650	3.710	4.480
100	3.520	39.620	87.170	120.060	89.600	35.780	1.790	3.390	3.140	3.650
105	2.370	26.750	102.460	150.980	96.060	27.520	1.470	3.330	3.070	3.330
110	2.180	18.690	64.830	87.870	65.090	17.600	1.600	3.260	3.140	3.390
115	2.180	10.500	52.930	70.020	52.740	8.190	1.730	3.200	3.200	3.460
120	2.300	6.080	39.230	53.250	38.080	4.350	1.860	3.140	3.260	3.520
125	2.370	3.070	25.660	37.180	23.740	2.430	1.980	3.070	3.260	3.580
130	2.500	1.790	14.590	22.270	12.800	1.660	2.110	3.070	3.330	3.580
135	2.620	1.920	8.900	12.220	7.620	1.790	2.300	3.070	3.260	3.580
140	2.690	2.050	4.740	6.910	4.100	1.920	2.430	3.070	3.260	3.650
145	2.750	2.180	2.620	3.200	2.430	2.050	2.560	3.140	3.260	3.580
150	2.880	2.300	2.620	1.980	2.560	2.180	2.620	3.140	3.260	3.580
155	2.940	2.430	2.690	2.180	2.620	2.370	2.750	3.140	3.260	3.520
160	3.010	2.560	2.820	2.300	2.690	2.500	2.820	3.200	3.200	3.460
165	3.070	2.690	2.880	2.500	2.820	2.620	2.880	3.140	3.140	3.390
170	3.140	2.750	3.010	2.690	2.940	2.750	2.940	3.140	3.140	3.330
175	3.140	2.880	3.140	2.820	3.070	2.820	3.070	3.140	3.010	3.200
180	3.062	3.062	3.062	3.062	3.062	3.062	3.062	3.062	3.062	3.062

Vert. Angles Horizontal Angles

	<u>300</u>	<u>330</u>	<u>360</u>
0	193.988	193.988	193.988
5	179.460	185.600	197.060
10	166.270	176.770	194.750
15	152.320	166.400	191.870
20	138.620	154.370	185.730
25	123.900	141.250	177.860
30	108.930	128.190	170.050
35	94.340	114.050	159.300
40	80.380	99.520	148.030
45	66.880	85.570	135.870
50	54.850	70.850	122.430
55	43.840	57.020	108.030
60	34.180	44.220	93.700
65	26.110	32.510	78.400
70	18.560	22.780	62.780
75	12.670	15.300	47.360
80	8.320	9.790	31.810

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85	6.660	6.340	17.920
90	4.800	4.610	8.060
95	3.520	3.650	4.990
100	3.010	3.390	3.520
105	3.010	3.140	2.370
110	3.010	2.940	2.180
115	3.070	2.880	2.180
120	3.140	2.880	2.300
125	3.140	2.940	2.370
130	3.200	3.010	2.500
135	3.260	3.070	2.620
140	3.260	3.140	2.690
145	3.260	3.140	2.750
150	3.260	3.140	2.880
155	3.260	3.140	2.940
160	3.200	3.140	3.010
165	3.140	3.140	3.070
170	3.070	3.140	3.140
175	3.010	3.070	3.140
180	3.062	3.062	3.062

IES INDOOR REPORT**PHOTOMETRIC FILENAME : FLX-14.4-10MM-3528-24-IP20-27K ALU-013-DOP_IESNA95.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	71.29	9.90	8.60
0-30	152.70	21.20	18.50
0-40	253.70	35.20	30.80
0-60	473.12	65.60	57.40
0-80	653.17	90.60	79.20
0-90	713.77	99.00	86.50
10-90	695.42	96.40	84.30
20-40	182.41	25.30	22.10
20-50	292.64	40.60	35.50
40-70	318.76	44.20	38.70
60-80	180.06	25.00	21.80
70-80	80.71	11.20	9.80
80-90	60.60	8.40	7.30
90-110	76.47	10.60	9.30
90-120	94.36	13.10	11.40
90-130	103.01	14.30	12.50
90-150	108.50	15.00	13.20
90-180	110.94	15.40	13.50
110-180	34.47	4.80	4.20
0-180	824.71	114.30	100.00

Total Luminaire Efficiency = 114.30%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	18.36
10-20	52.93
20-30	81.41
30-40	101.00
40-50	110.22
50-60	109.19
60-70	99.34
70-80	80.71
80-90	60.60
90-100	43.06
100-110	33.41
110-120	17.89
120-130	8.64
130-140	3.61
140-150	1.88
150-160	1.32
160-170	0.84
170-180	0.29

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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	132	132	132	132	128	128	128	128	118	118	118	110	110	110	103	103	103	99
1	117	111	104	99	113	106	101	96	99	94	90	91	88	84	85	82	79	76
2	105	95	86	78	101	91	83	76	84	78	72	78	73	68	72	68	64	60
3	95	82	72	63	91	79	69	62	73	65	59	68	61	56	63	58	53	49
4	87	72	61	53	83	69	59	52	65	56	49	60	53	47	56	50	45	41
5	80	64	53	45	76	62	52	44	57	49	42	54	46	40	50	43	38	35
6	73	57	46	39	70	55	45	38	52	43	36	48	41	35	45	38	33	31
7	68	52	41	34	65	50	40	33	47	38	32	44	36	31	41	34	29	27
8	63	47	37	30	60	46	36	29	43	34	28	40	33	27	38	31	26	24
9	59	43	33	27	56	42	33	26	39	31	25	37	30	24	35	28	23	21
10	55	40	30	24	53	38	30	24	36	28	23	34	27	22	32	26	21	19

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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	16.7	18.2	17.2	18.7	19.3	21.7	23.2	22.2	23.7	24.3
	3H	18.8	20.1	19.3	20.7	21.3	24.9	26.3	25.5	26.8	27.5
	4H	19.6	20.9	20.2	21.5	22.2	26.5	27.8	27.1	28.4	29.0
	6H	20.4	21.6	21.0	22.2	22.9	28.2	29.4	28.8	30.0	30.6
	8H	20.7	21.8	21.3	22.4	23.1	29.1	30.2	29.7	30.9	31.5
	12H	20.9	22.0	21.5	22.7	23.4	30.2	31.3	30.8	31.9	32.6

UGR Viewed Endwise

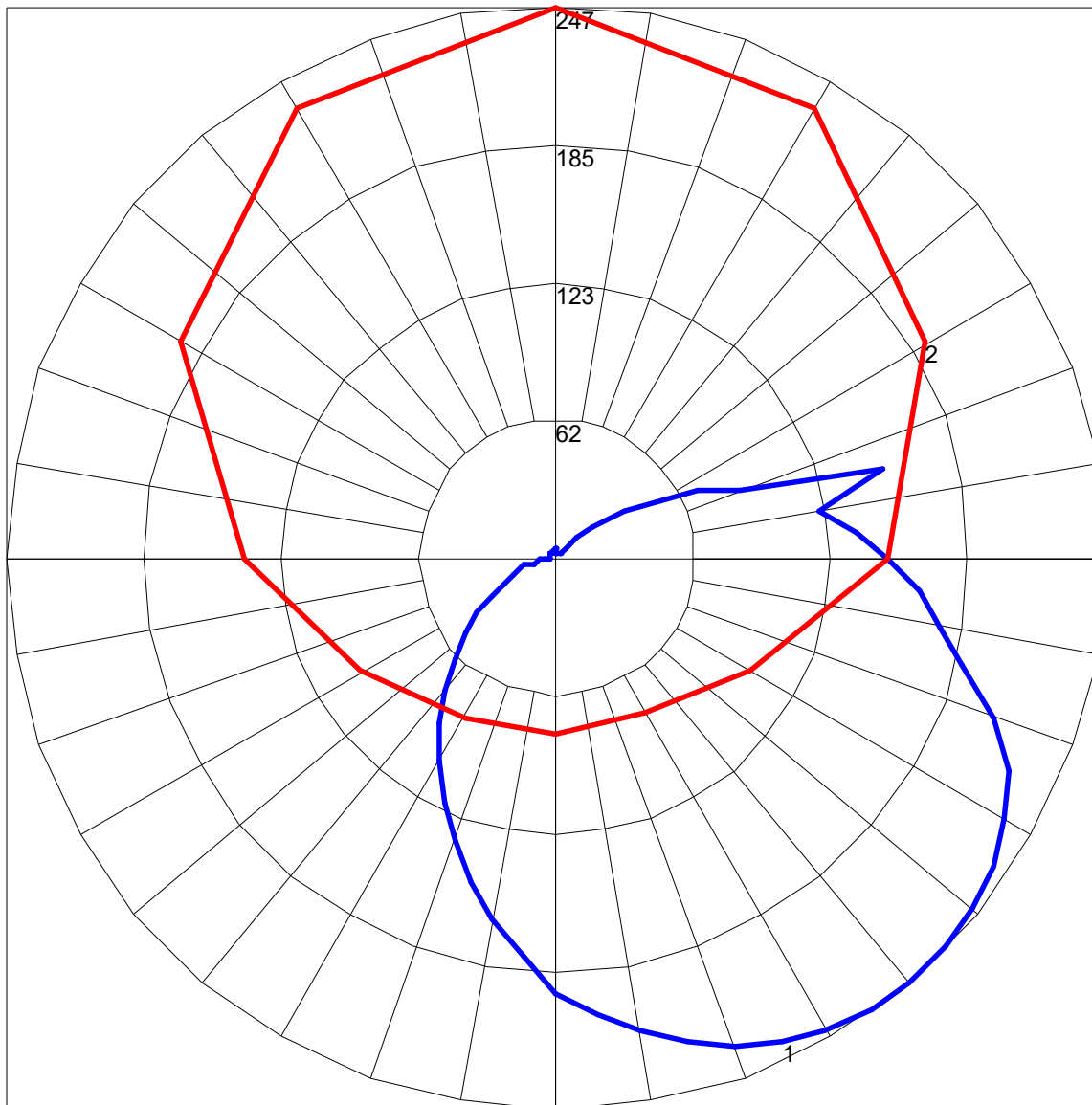
4H	2H	18.1	19.4	18.7	20.0	20.6	22.3	23.6	22.9	24.2	24.9
	3H	20.5	21.6	21.1	22.2	22.9	25.9	27.0	26.5	27.6	28.3
	4H	21.6	22.6	22.2	23.2	23.9	27.7	28.7	28.3	29.3	30.0
	6H	22.5	23.4	23.1	24.1	24.8	29.5	30.4	30.2	31.1	31.8
	8H	22.9	23.7	23.5	24.4	25.1	30.6	31.4	31.2	32.1	32.8
	12H	23.2	24.0	23.9	24.7	25.4	31.8	32.6	32.5	33.3	34.0
8H	4H	22.8	23.7	23.4	24.3	25.1	28.1	28.9	28.7	29.6	30.3
	6H	24.1	24.8	24.8	25.5	26.3	30.2	31.0	30.9	31.6	32.4
	8H	24.7	25.4	25.4	26.1	26.8	31.5	32.1	32.2	32.8	33.6
	12H	25.3	25.9	26.0	26.6	27.4	33.0	33.5	33.6	34.2	35.1
12H	4H	23.2	24.0	23.8	24.6	25.4	28.2	28.9	28.8	29.6	30.4
	6H	24.7	25.3	25.4	26.0	26.8	30.4	31.0	31.1	31.7	32.5
	8H	25.5	26.1	26.2	26.8	27.6	31.7	32.3	32.4	33.0	33.8

Maximum UGR = 35.1

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POLAR GRAPH



Maximum Candela = 246.72 Located At Horizontal Angle = 90, Vertical Angle = 40

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

2 - Horizontal Cone Through Vertical Angle (40) (Through Max. Cd.)