



IES INDOOR REPORT

PHOTOMETRIC FILENAME : FLX-9.6-8MM-3528-24-IP20-27K LL-0725 ALU-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-9.6-8MM-3528-24-IP20-27K
 [LUMINAIRE] LL-0725 ALU LL-0725 DOP
 [LAMPCAT] 1
 [LAMP] 3528 120LED CRI90 PCB 8MM
 [BALLAST] DC24V

CHARACTERISTICS

Lumens Per Lamp	315.8 (1 lamp)
Total Lamp Lumens	315.8
Luminaire Lumens	316
Total Luminaire Efficiency	100 %
Luminaire Efficacy Rating (LER)	33
Total Luminaire Watts	9.5
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.38
Spacing Criterion (90-270)	2.10
Spacing Criterion (Diagonal)	1.52
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.00 m
Luminous Width (90-270)	0.02 m
Luminous Height	0.00 m



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3600	5901	6957
55	3742	7027	8583
65	3882	8946	11293
75	4202	12735	15979
85	6423	31525	43272

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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	64.955	64.955	64.955	64.955	64.955	64.955	64.955	64.955	64.955	64.955
5	66.690	68.860	69.250	70.460	68.740	67.970	65.410	61.820	57.920	58.110
10	66.300	71.490	74.180	75.970	73.340	70.270	64.000	57.730	51.970	51.780
15	64.960	73.470	78.780	81.090	77.760	72.130	62.020	53.180	45.760	45.120
20	63.490	74.500	82.750	85.700	81.410	73.470	59.520	48.320	39.810	38.910
25	62.660	75.200	86.020	89.540	84.420	74.180	56.830	43.330	34.050	33.020
30	60.740	76.100	88.640	92.800	86.910	74.430	53.950	38.460	30.080	27.580
35	57.980	76.800	90.430	95.420	88.700	74.690	49.920	33.280	23.550	22.660
40	54.720	76.420	91.580	97.220	89.860	74.370	45.570	28.160	19.200	18.500
45	50.940	75.070	91.900	98.430	90.300	72.770	40.770	23.870	15.550	15.100
50	46.850	73.150	91.460	98.820	90.050	70.460	36.160	18.500	12.480	12.160
55	42.940	70.720	90.560	98.500	89.150	67.650	31.040	14.530	9.980	9.860
60	38.140	67.650	89.150	97.410	87.680	64.130	25.220	11.140	7.870	7.870
65	32.830	64.130	87.170	95.490	85.760	60.160	19.970	8.380	6.210	6.270
70	27.780	60.030	83.520	91.010	83.260	55.620	14.590	6.340	4.930	5.060
75	21.760	55.360	76.540	82.750	77.060	51.140	9.220	4.800	3.780	3.970
80	16.580	50.430	68.480	79.300	65.860	46.210	4.800	3.840	3.070	3.330
85	11.200	45.310	64.640	75.460	61.890	40.190	2.110	3.200	2.880	2.940
90	6.400	39.870	63.300	69.700	60.480	33.980	1.980	2.750	2.500	2.560
95	2.560	27.070	49.540	63.490	42.500	21.820	1.280	2.180	1.920	2.180
100	1.340	20.160	46.910	57.730	42.240	14.460	0.640	2.050	1.860	1.920
105	1.150	13.820	39.870	48.640	36.100	8.260	0.700	1.660	1.730	1.730
110	1.150	5.570	31.100	37.890	26.500	1.220	0.770	1.340	1.540	1.660
115	1.020	0.580	20.670	26.500	16.130	0.580	0.770	1.280	1.410	1.600
120	1.020	0.580	9.410	14.910	5.630	0.580	0.830	1.340	1.340	1.600
125	1.150	0.580	1.280	4.220	1.150	0.580	0.830	1.280	1.340	1.600
130	1.150	0.700	1.150	0.510	1.090	0.640	0.900	1.340	1.340	1.600
135	1.150	0.770	1.090	0.580	1.090	0.700	0.960	1.340	1.340	1.600
140	1.220	0.770	1.090	0.640	1.020	0.770	0.960	1.340	1.340	1.540
145	1.220	0.830	1.090	0.640	1.090	0.770	1.020	1.280	1.340	1.540
150	1.220	0.830	1.090	0.700	1.090	0.830	1.020	1.280	1.280	1.470
155	1.220	0.900	1.090	0.770	1.090	0.900	1.090	1.280	1.280	1.470
160	1.220	0.900	1.150	0.830	1.150	0.960	1.090	1.280	1.280	1.410
165	1.220	0.960	1.150	0.900	1.150	1.020	1.150	1.280	1.220	1.340
170	1.220	1.020	1.220	0.960	1.220	1.020	1.150	1.220	1.150	1.280
175	1.220	1.090	1.280	1.090	1.220	1.090	1.150	1.220	1.150	1.280
180	1.172	1.172	1.172	1.172	1.172	1.172	1.172	1.172	1.172	1.172

Vert. Horizontal Angles

	<u>300</u>	<u>330</u>	<u>360</u>
0	64.955	64.955	64.955
5	57.980	61.760	66.690
10	52.350	57.920	66.300
15	46.340	53.180	64.960
20	40.260	48.830	63.490
25	34.560	44.800	62.660
30	29.310	39.740	60.740
35	24.380	34.820	57.980
40	19.970	29.760	54.720
45	16.000	24.700	50.940
50	12.800	20.220	46.850
55	10.180	15.740	42.940
60	8.000	11.900	38.140
65	6.270	8.830	32.830
70	4.860	6.660	27.780
75	3.780	4.990	21.760
80	2.940	3.970	16.580

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85	2.820	3.460	11.200
90	2.430	3.010	6.400
95	1.980	2.500	2.560
100	1.790	1.980	1.340
105	1.600	1.470	1.150
110	1.410	1.280	1.150
115	1.410	1.280	1.020
120	1.340	1.340	1.020
125	1.340	1.340	1.150
130	1.340	1.340	1.150
135	1.340	1.340	1.150
140	1.340	1.340	1.220
145	1.340	1.340	1.220
150	1.340	1.340	1.220
155	1.280	1.280	1.220
160	1.280	1.280	1.220
165	1.220	1.280	1.220
170	1.220	1.220	1.220
175	1.150	1.220	1.220
180	1.172	1.172	1.172

IES INDOOR REPORT**PHOTOMETRIC FILENAME : FLX-9.6-8MM-3528-24-IP20-27K LL-0725 ALU-DOP_IESNA95.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	23.90	7.60	7.60
0-30	51.57	16.30	16.30
0-40	86.73	27.50	27.50
0-60	167.46	53.00	53.00
0-80	242.05	76.60	76.60
0-90	270.91	85.80	85.80
10-90	264.77	83.80	83.80
20-40	62.82	19.90	19.90
20-50	102.46	32.40	32.40
40-70	120.47	38.10	38.10
60-80	74.59	23.60	23.60
70-80	34.86	11.00	11.00
80-90	28.86	9.10	9.10
90-110	34.56	10.90	10.90
90-120	40.75	12.90	12.90
90-130	42.38	13.40	13.40
90-150	43.94	13.90	13.90
90-180	44.91	14.20	14.20
110-180	10.35	3.30	3.30
0-180	315.82	100.00	100.00

Total Luminaire Efficiency = 100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	6.15
10-20	17.76
20-30	27.67
30-40	35.15
40-50	39.63
50-60	41.10
60-70	39.73
70-80	34.86
80-90	28.86
90-100	20.92
100-110	13.64
110-120	6.19
120-130	1.63
130-140	0.86
140-150	0.70
150-160	0.53
160-170	0.33
170-180	0.11

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	116	116	116	116	111	111	111	111	103	103	103	96	96	96	89	89	89	86
1	102	95	89	84	97	91	86	81	84	80	76	78	74	71	72	69	67	63
2	91	81	72	65	87	78	70	64	72	65	60	66	61	56	61	57	53	50
3	82	70	60	53	78	67	58	51	62	55	49	57	51	46	53	48	43	40
4	74	61	51	44	71	59	50	43	54	47	40	50	44	38	46	41	36	33
5	68	54	44	37	65	52	43	36	48	40	34	45	38	33	41	36	31	28
6	63	48	39	32	60	47	38	31	43	35	30	40	33	28	37	31	27	24
7	58	43	34	28	55	42	33	27	39	31	26	36	30	25	34	28	24	21
8	54	39	31	24	51	38	30	24	36	28	23	33	27	22	31	25	21	19
9	50	36	27	22	48	35	27	21	33	25	20	31	24	20	29	23	19	17
10	47	33	25	19	45	32	24	19	30	23	18	28	22	18	26	21	17	15

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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	15.9	17.4	16.5	18.0	18.6	21.1	22.5	21.6	23.1	23.7
	3H	18.3	19.6	18.8	20.2	20.9	24.5	25.8	25.0	26.4	27.1
	4H	19.3	20.6	19.9	21.2	21.9	26.1	27.4	26.7	28.0	28.7
	6H	20.2	21.5	20.8	22.1	22.8	27.9	29.1	28.5	29.7	30.4
	8H	20.7	21.9	21.3	22.5	23.2	28.9	30.1	29.5	30.7	31.4
	12H	21.1	22.2	21.7	22.9	23.6	30.0	31.2	30.7	31.8	32.5

UGR Viewed Endwise

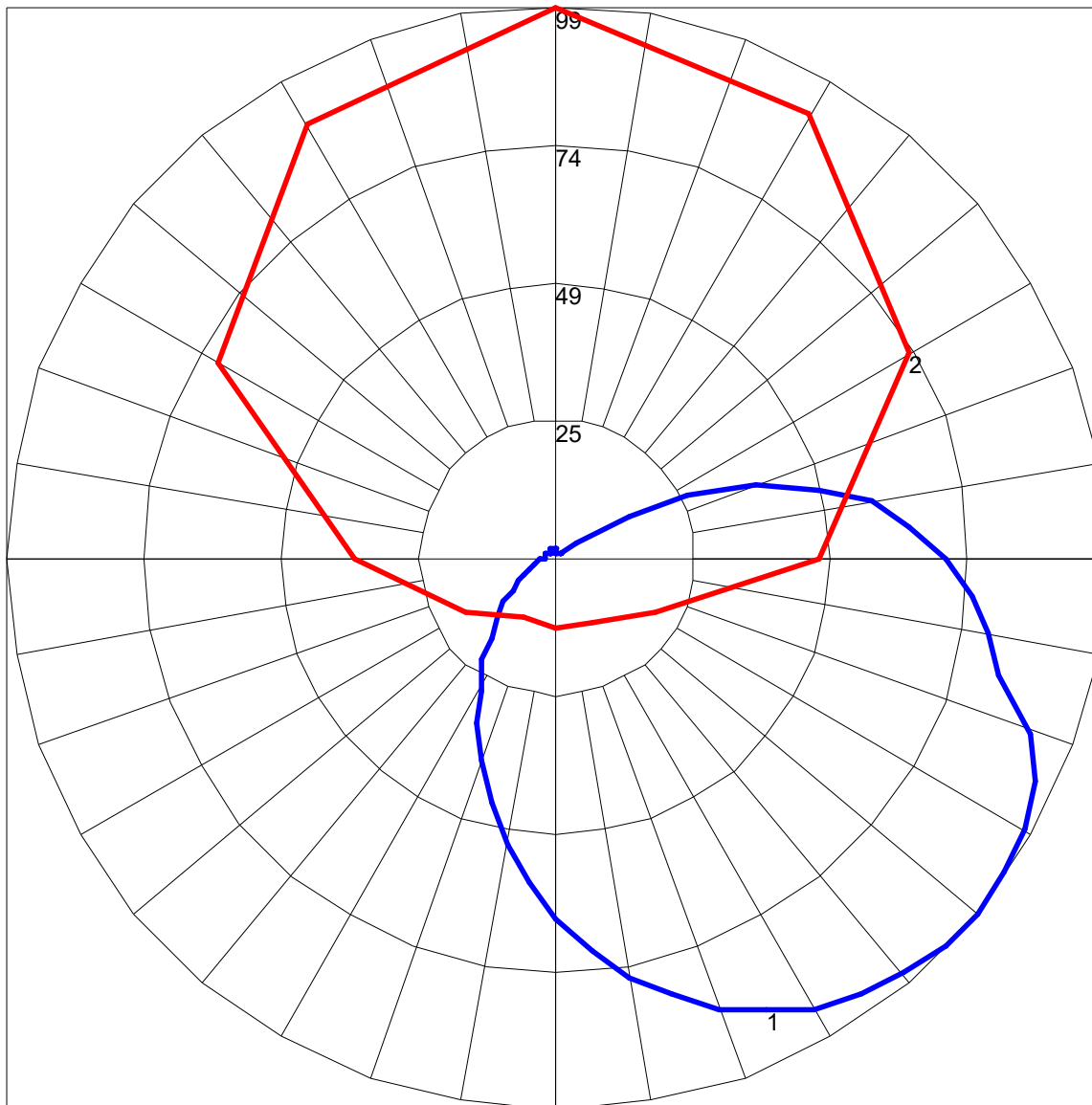
4H	2H	17.5	18.8	18.1	19.4	20.1	21.7	23.0	22.3	23.6	24.3
	3H	20.2	21.3	20.8	22.0	22.7	25.5	26.6	26.1	27.2	27.9
	4H	21.4	22.5	22.1	23.1	23.9	27.3	28.4	27.9	29.0	29.7
	6H	22.6	23.5	23.2	24.2	24.9	29.3	30.2	29.9	30.9	31.7
	8H	23.1	24.0	23.7	24.7	25.4	30.4	31.3	31.1	32.0	32.7
	12H	23.6	24.4	24.3	25.1	25.9	31.7	32.5	32.4	33.2	34.0
8H	4H	22.8	23.7	23.4	24.3	25.1	27.8	28.7	28.4	29.3	30.1
	6H	24.3	25.1	25.0	25.8	26.6	30.1	30.8	30.7	31.5	32.3
	8H	25.1	25.8	25.8	26.5	27.3	31.4	32.1	32.1	32.8	33.6
	12H	25.8	26.4	26.5	27.1	28.0	32.9	33.6	33.6	34.3	35.1
12H	4H	23.2	24.0	23.8	24.7	25.5	27.9	28.7	28.5	29.4	30.1
	6H	25.0	25.6	25.6	26.3	27.1	30.2	30.9	30.9	31.6	32.4
	8H	25.9	26.5	26.6	27.2	28.1	31.7	32.3	32.4	33.0	33.8

Maximum UGR = 35.1

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POLAR GRAPH



Maximum Candela = 98.82 Located At Horizontal Angle = 90, Vertical Angle = 50

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

2 - Horizontal Cone Through Vertical Angle (50) (Through Max. Cd.)