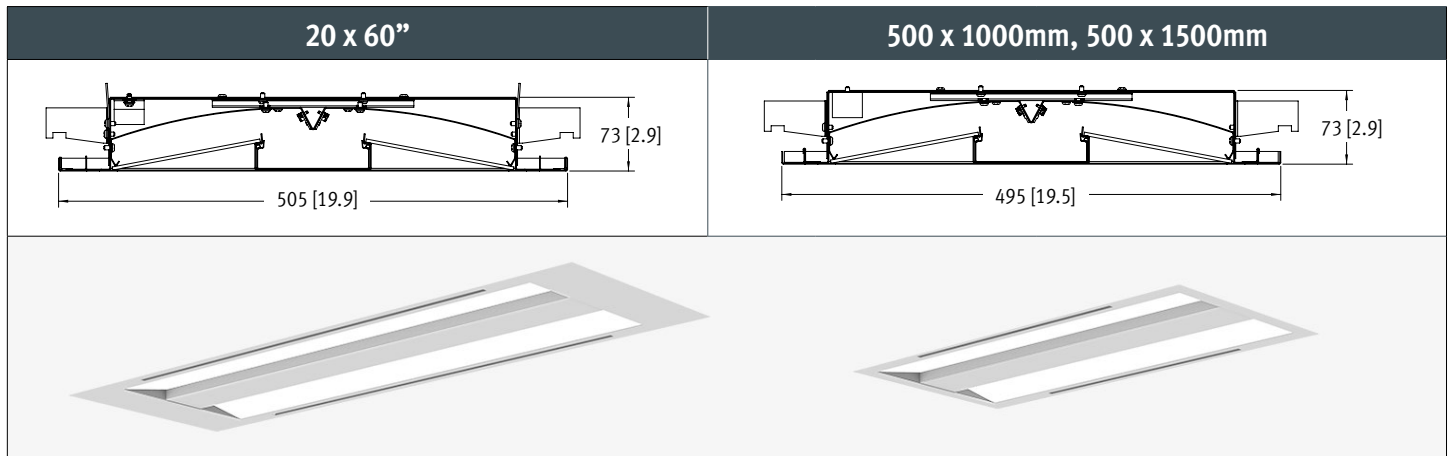


TC9

LED . Recessed



CAT #:	
PREP BY:	NOTES:
DATE:	
PROJECT:	
TYPE:	



ORDERING LOGIC

TC9																											
Model	Color Temp	Size	Optics	Finish	LL/Driver	Circuitry	Mounting	Voltage	Controls	Options																	
Color Temp		Optics		Light Level (LL)/Driver		Circuitry		Controls	Options																		
2L30K = 3000K		MW = Meta Ice Wide		Performance at 3500K 0-10V Dimming (Standard) <table><tr><th>Light Level</th><th>Lumens Delivered</th><th>Wattage</th><th>Efficacy</th></tr><tr><td>L1</td><td rowspan="4">See page 2 for complete chart</td><td></td><td></td></tr><tr><td>L2</td><td></td><td></td></tr><tr><td>L3</td><td></td><td></td></tr><tr><td>L4</td><td></td><td></td></tr></table>		Light Level	Lumens Delivered	Wattage	Efficacy	L1	See page 2 for complete chart			L2			L3			L4			1 = 1 Circuit (Standard)		_ = None (leave space empty)		90 = 90 CRI
Light Level	Lumens Delivered	Wattage	Efficacy																								
L1	See page 2 for complete chart																										
L2																											
L3																											
L4																											
2L35K = 3500K		MPBW = Meta Ice w/ Perforated Basket Wide				EM = Emergency/Night Light (Consult factory)		D = Daylight Sensor		AIR = Air in / Air Return																	
2L40K = 4000K		Finish				B = Battery Pack		O = Occupancy Sensor		_ = None / No Air (leave space empty)																	
Size		W = White				Mounting		DO = Daylight / Occupancy Sensor																			
2060 = 20 x 60 in		C = Custom Finish <i>Specify RAL#:</i>				T = Recessed T-Bar		CLM = Control Light Module																			
510 = 500 x 1000 mm						Voltage		WCM = Wireless Control Module																			
515 = 500 x 1500 mm						1 = 120 V																					
						2 = 277 V																					
						3 = 347 V																					
						4 = UNV (120-277 V)																					

SPECIFICATIONS

Due to the Continuous Improvement Policy at Metalumen, we reserve the right to change our specifications without notice.

Housing: This luminaire is 65% post-industrial recycled content with a 20 gauge cold rolled steel body construction and spot welded. Optical System: Optical System MetaLED mid flux LED technology transmits to an internal high performance reflector. Light then passes through our Meta Ice acrylic center channel or perforated metal basket with Meta Ice inlay and side panels for a smooth distribution. This creates a continuum of smooth consistent light. **Optical System:** Optical System MetaLED mid flux LED technology transmits to an internal high performance, side-kicking reflector

that then passes through our Meta Ice acrylic diffuser for smooth distribution. This creates a continuum of smooth consistent light. **CRI:** 84 (4000K) (80 minimum) **Lumen Maintenance:** At an ambient operating temperature of 35°C the LED lifetime expectancy => 60 000hrs at L86. **Finish:** Powder coated white. Consult factory for custom finish. **Weight:** 20 x 60" = 29 lbs / 13.15 kg
500 x 1000 mm = 20 lbs / 9.1 kg
500 x 1500 mm = 29 lbs / 13.2 kg

Mounting: Mounting brackets/clips provided. Recessed TC9 can fit 9/16" and 15/16" T-Bars, maximum height of 1.5". **Electrical:** Factory prewired. **Drivers:** Metalumen offers dimming drivers as a standard on our entire LED product offering at 0-10V. Dimming range is down to 1%. Power factor @ full load is > 90% with a Class 2 rating. **Lutron Driver Options:** Consult factory for Lutron driver options:
• L3DAE Hi-lume 1% EcoSystem LED Driver
• L3DA3W Hi-lume 1% 3-wire LED Driver

• LTEA2W Hi-lume 1% 2-wire LED Driver
• LDE1 Hi-lume 1% -H EcoSystem LED Driver
• LDE5 5-Series EcoSystem LED Driver
Approvals: Certified to NRTL and IES testing standards. All components are UL recognized or listed and ROHS.
Environment: Suitable for damp or dry locations.

FILE NAME: TC9_LED_T_SPEC_SHEET_201804011

APPROVALS: Signature _____ Date _____

570 Southgate Drive, Guelph, Ontario N1G 4P6
Mailing Address: P.O. Box 1779 Guelph, Ontario, N1H 6Z9

1.800.621.6785 | T 519.822.4381 | F 519.822.4589
www.metalumen.com

Metalumen

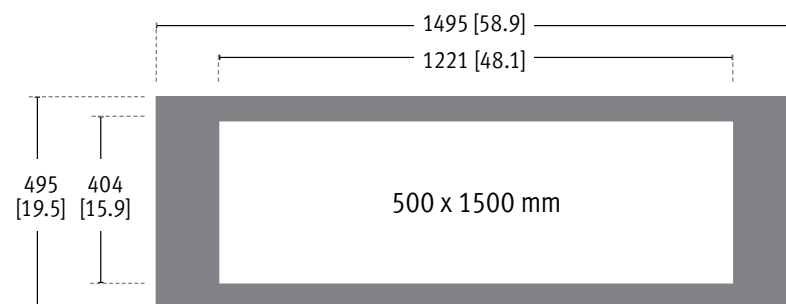
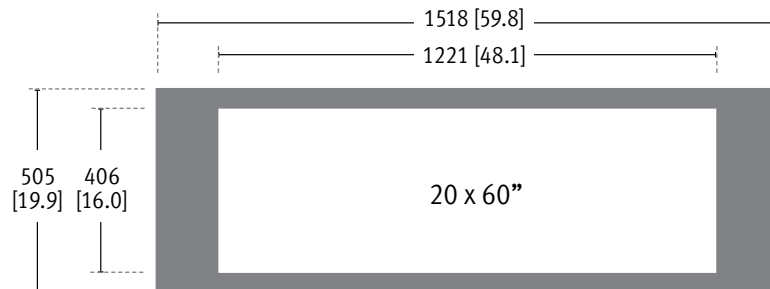
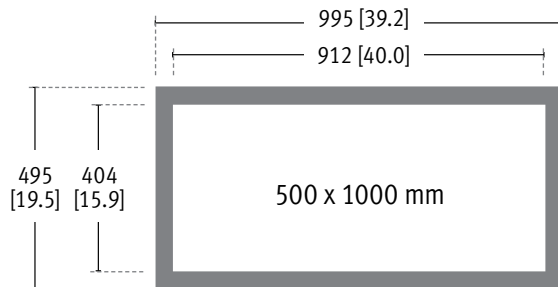
WARRANTY

Metalumen will warrant defective luminaires for 5 years from date of purchase. Warranty is valid if luminaire is installed and used according to specification. If defective, Metalumen will send replacement boards or drivers at no cost along with detailed replacement instructions and instructions on how to return defective components to Metalumen.

LIGHT LEVELS and PERFORMANCE

Optics	Light Level	20 x 60"			500 x 1000 mm			500 x 1500 mm		
		Lumens Delivered	Wattage	Efficacy (lms/W)	Lumens Delivered	Wattage	Efficacy (lms/W)	Lumens Delivered	Wattage	Efficacy (lms/W)
MW Meta Ice Wide	L1	3555	27.6	128	2655	20.7	128	3525	27.6	127
	L2	4381	35.2	124	3273	26.42	123	4346	35.23	123
	L3	5852	48.3	121	4371	36.23	120	5803	48.3	120
	L4	10779	96.6	111	8052	72.45	111	10690	96.6	110
MPBW Meta Ice w/ Perforated Basket Wide	L1	2343	27.6	84	1749	20.7	84	2444	27.6	88
	L2	2888	35.23	82	2155	25.42	81	3012	35.23	85
	L3	3859	48.3	79	2878	36.23	79	4023	25.3	83
	L4	7107	96.6	73	5300	72.45	73	7408	96.6	88

DIMENSIONS



PHOTOMETRICS - 3500K - 20 x 60"

Meta Ice Wide

File Name: TC9-2L35K-2060-MW-L3

Luminaire Lumens: 5852

Total Watts: 48.3

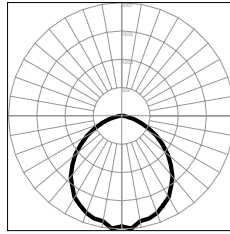
Efficacy: 121 lms/W

COEFFICIENTS OF UTILIZATION

Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

RC	80				70				50			
RW	70	50	30	10	70	50	30	10	70	50	30	10
RCR												
0	119	119	119	119	116	116	116	116	111	111	111	111
1	108	104	99	95	106	101	97	94	97	94	91	87
2	98	90	83	77	96	88	82	76	84	79	74	69
3	90	79	71	64	87	77	70	63	74	67	62	57
4	82	70	61	54	80	68	60	54	66	59	53	47
5	75	62	53	46	73	61	52	46	59	51	46	40
6	69	56	47	40	68	55	46	40	53	45	40	35
7	64	51	42	36	63	50	41	35	48	41	35	30
8	60	46	38	32	58	45	37	32	44	37	31	26
9	56	42	34	28	54	42	34	28	41	33	28	23
10	52	39	31	26	51	39	31	26	38	30	26	21

PHOTOMETRIC CURVE



LUMINANCE DATA (CD/M²)

Vertical Angle	Horizontal Angle	0	45	90
45	2170	2203	2374	
55	1870	1994	2273	
65	1455	1730	2139	
75	933	1439	1795	
85	453	700	559	

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angle	0	22.5	45	67.5	90
0	1960.31	1960.31	1960.31	1960.31	1960.31	
5	2006.5	1949.24	1966.79	1933.84	1973.86	
10	1897.51	1922.45	1908.25	1953.13	1949.65	
15	1883.18	1864.61	1905.77	1921.59	1885.11	
20	1830.74	1800.07	1852.41	1860.19	1850.65	
25	1746.26	1755.67	1790.25	1837.61	1848.47	
30	1668.52	1676.8	1746.53	1766.44	1773.3	
35	1528.19	1564.92	1618.72	1685.03	1699.19	
40	1403.04	1447.89	1500.5	1576.64	1584.44	
45	1237.19	1286.13	1368.18	1456.28	1485.71	
50	1070.77	1116.06	1220.8	1314.69	1365.71	
55	882.59	941.4	1058.71	1182.11	1219.68	
60	711.56	771.42	898.03	1020.57	1090.4	
65	523.35	598.75	735.11	870.64	922.04	
70	360.11	436.85	581.93	712.14	750.65	
75	220.48	294.31	440.24	536.55	560.93	
80	115.6	187.16	288.4	341.63	332.77	
85	47.97	89.04	124.45	114.13	103.2	
90	15.36	18.16	18.97	16.27	14.94	

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-20	720.16	12.30
0-30	1547.08	26.40
0-40	2561.57	43.70
0-60	4562.88	77.90
0-80	5727.86	97.80
0-90	5858.29	100.00
10-90	5672.38	96.80
20-40	1841.4	31.40
20-50	2895.74	49.40
40-70	2727.48	46.60
60-80	1164.99	19.90
70-80	438.82	7.50
80-90	130.42	2.20
90-110	0.00	0.00
90-120	0.00	0.00
90-130	0.00	0.00
90-150	0.00	0.00
90-180	0.00	0.00
0-180	5858.29	100.00

Meta Ice Perforated Basket Wide

File Name: TC9-2L35K-2060-MPBW-L3

Luminaire Lumens: 3859

Total Watts: 48.3

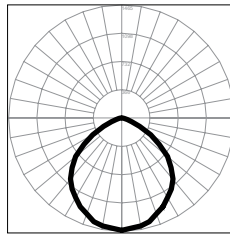
Efficacy: 79 lms/W

COEFFICIENTS OF UTILIZATION

Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

RC	80				70				50			
RW	70	50	30	10	70	50	30	10	70	50	30	10
RCR												
0	119	119	119	119	116	116	116	116	111	111	111	111
1	109	105	101	97	107	102	99	95	98	95	92	89
2	100	92	85	80	97	90	84	79	87	81	77	73
3	91	81	73	67	89	80	72	66	77	70	65	61
4	84	72	64	57	82	71	63	57	67	60	55	51
5	77	65	56	49	75	64	55	49	61	54	49	45
6	71	58	50	43	69	57	49	43	56	48	43	39
7	66	53	44	38	64	52	44	38	51	43	38	34
8	62	48	40	34	60	48	40	34	46	39	34	30
9	58	44	36	31	56	44	36	31	43	36	31	27
10	54	41	33	28	53	40	33	28	39	33	28	24

PHOTOMETRIC CURVE



LUMINANCE DATA (CD/M²)

Vertical Angle	Horizontal Angle	0	45	90
45	1592	1559	1691	
55	1261	1276	1462	
65	716	839	1073	
75	322	664	970	
85	222	413	488	

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angle	0	22.5	45	67.5	90
0	1455.73	1455.73	1455.73	1455.73	1455.73	
5	1430.31	1429.96	1441.02	1463.49	1464.56	
10	1418.71	1409.87	1420.44	1434.1	1415.36	
15	1387.79	1380.58	1382.88	1383.46	1384.76	
20	1319.26	1349.87	1340.84	1344.75	1364.7	
25	1267.05	1276.19	1303.13	1305.59	1302.05	
30	1189.74	1206.15	1221.35	1250.98	1265.64	
35	1122.01	1121.12	1156	1197.63	1215.4	
40	1033.11	1044.74	1091.39	1146.88	1188.33	
45	907.39	916.6	968.15	1039.22	1058.17	
50	776.77	778.81	842.28	931.44	951.32	
55	595.24	602.07	677.53	758.49	784.67	
60	434.38	439.48	523.31	599.45	636.55	
65	257.38	273.32	356.49	434.81	462.44	
70	140.93	161.09	260.9	340.19	380.97	
75	76.12	95.45	203.26	275.79	303.07	
80	37.9	63.01	146.05	184.65	199.92	
85	23.56	36.73	73.43	85.29	90.01	
90	8.09	10.86	16.92	17.77	18.13	

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-20	528.31	13.70
0-30	1123.63	29.10
0-40	1852.13	47.90
0-60	3219.18	83.30
0-80	3790.38	98.10
0-90	3863.62	100.00
10-90	3726.42	96.40
20-40	1323.92	34.30
20-50	2077.99	53.80
40-70	1736.05	44.90
60-80	571.20	14.80
70-80	202.19	5.20
80-90	73.24	1.90
90-110	0.00	0.00
90-120	0.00	0.00
90-130	0.00	0.00
90-150	0.00	0.00
90-180	0.00	0.00
0-180	3863.62	100.00

PHOTOMETRICS - 3500K - 500 x 1000 mm

Meta Ice Wide

File Name: TC9-2L35K-510-MW-L3

Luminaire Lumens: 4371

Total Watts: 36.2

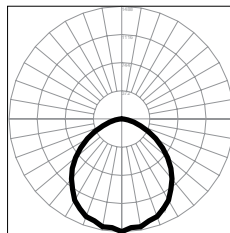
Efficacy: 120 lms/W

COEFFICIENTS OF UTILIZATION

Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

RC RW	80				70				50			
	70	50	30	10	70	50	30	10	50	30	10	
RCR												
0	119	119	119	119	116	116	116	116	111	111	111	
1	108	104	99	95	106	101	97	94	97	94	91	
2	98	90	83	77	96	88	82	76	85	79	74	
3	90	79	71	64	87	77	70	63	74	68	62	
4	82	70	61	54	80	68	60	54	66	59	53	
5	75	62	53	46	73	61	53	46	59	51	46	
6	69	56	47	40	68	55	46	40	53	45	40	
7	64	51	42	36	63	50	41	35	48	41	35	
8	60	46	38	32	58	46	37	32	44	37	31	
9	56	42	34	28	55	42	34	28	41	33	28	
10	52	39	31	26	51	39	31	26	38	30	26	

PHOTOMETRIC CURVE



LUMINANCE DATA (CD/M²)

Vertical Angle	Horizontal Angle	0	45	90
45	2465	2564	2793	
55	2120	2292	2696	
65	1628	1970	2502	
75	1023	1608	2124	
85	442	753	737	

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angle	0	22.5	45	67.5	90
0	1488.24	1488.24	1488.24	1488.24	1488.24	
5	1441.36	1454.99	1475.14	1481.93	1479.61	
10	1444.14	1435.92	1446.04	1456.23	1459.95	
15	1392.06	1414.87	1411.86	1424.11	1439.49	
20	1370.8	1360.1	1380.2	1400.56	1400.07	
25	1308.5	1324.97	1339.05	1365.75	1384.15	
30	1238.03	1246.1	1282.11	1325.41	1335.06	
35	1133	1168.59	1210.03	1258.12	1277.45	
40	1032.86	1053.57	1119.94	1183.31	1203.73	
45	922.12	954.16	1033.21	1090	1116.84	
50	796.22	829.11	912.06	990.93	1037.24	
55	661.98	702.58	792.5	886.44	922.82	
60	520.49	567	670.11	761.06	805.68	
65	392.44	438.85	547.77	655.8	686.11	
70	266.42	319.77	434.34	530.72	565.44	
75	166.21	219.07	324.91	399.63	420.36	
80	84.04	136.54	216.02	252.33	249.14	
85	34.95	66.83	90.17	87.42	85.09	
90	9.75	15.45	16.07	14.46	13.11	

PHOTOMETRICS - 3500K - 500 x 1000 mm (cont'd)

Meta Ice Perforated Basket Wide

File Name: TC9-2L35K-510-MPBW-L3

Luminaire Lumens: 2878

Total Watts: 36.2

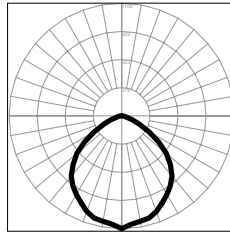
Efficacy: 79 lms/W

COEFFICIENTS OF UTILIZATION

Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

RC RW	80				70				50			
	70	50	30	10	70	50	30	10	70	50	30	10
RCR	119	119	119	119	116	116	116	116	111	111	111	111
0	109	104	99	96	106	102	98	94	97	94	91	87
1	99	90	83	78	96	88	82	77	85	80	75	70
2	90	79	71	64	87	78	70	64	75	68	63	57
3	82	70	61	55	80	69	61	54	66	59	53	47
4	76	63	54	47	73	61	53	47	59	52	46	40
5	70	56	47	41	68	55	47	41	54	46	40	34
6	65	51	42	36	63	50	42	36	49	41	36	30
7	60	47	38	32	59	46	38	32	44	37	32	26
8	56	43	34	29	55	42	34	29	41	34	29	23
9	53	39	31	26	51	39	31	26	38	31	26	20
10												

PHOTOMETRIC CURVE



LUMINANCE DATA (CD/M²)

Vertical Angle	Horizontal Angle		
	0	45	90
45	2174	2239	2422
55	1896	2022	2298
65	1473	1711	2034
75	949	1327	1584
85	412	705	628

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	2015.29	2015.29	2015.29	2015.29	2015.29
5	1995.32	1985.61	1952.78	1992.36	1991.2
10	1914.23	1906.37	1919.53	1955.31	1939.8
15	1867.69	1900.26	1893.64	1892.58	1939.11
20	1834.49	1823.1	1858.81	1853.63	1864.13
25	1750.54	1747.93	1816.64	1846.21	1842.06
30	1675.16	1692.05	1725.4	1800.39	1790.29
35	1528.33	1582.17	1633.49	1701.8	1718.41
40	1402.56	1442.97	1518.7	1594.47	1630.66
45	1235.28	1299.37	1379.31	1472.22	1503.14
50	1069.64	1119.32	1236.68	1335.2	1386.56
55	891.16	950.28	1062.08	1161.34	1219.15
60	712.26	763.35	889.09	999.01	1044.72
65	526.63	588.54	716.18	819.52	863.22
70	368.52	427.02	549.82	644.45	666.6
75	222	281.88	397.09	466.79	483.77
80	110.55	173.94	259.26	298.45	300.37
85	42.69	84.43	120.4	112.98	111.16
90	16.29	21.14	21.4	20.21	18.49

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-20	722.98	12.40
0-30	1553.5	26.70
0-40	2576.3	44.30
0-60	4585.92	78.90
0-80	5686.27	97.90
0-90	5809.25	100.00
10-90	5621.67	96.80
20-40	1853.32	31.90
20-50	2917.3	50.20
40-70	2709.34	46.60
60-80	1100.35	18.90
70-80	400.63	6.90
80-90	122.98	2.10
90-110	0.00	0.00
90-120	0.00	0.00
90-130	0.00	0.00
90-150	0.00	0.00
90-180	0.00	0.00
110-180	0.00	0.00
0-180	5809.25	100.00

PHOTOMETRICS - 3500K - 500 x 1500 mm

Meta Ice Wide

File Name: TC9-2L35K-515-MW-L3

Luminaire Lumens: 5803

Total Watts: 48.3

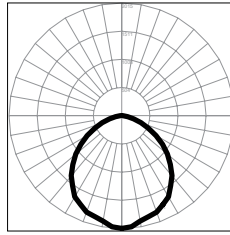
Efficacy: 120 lms/W

COEFFICIENTS OF UTILIZATION

Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

RC RW	80				70				50			
	70	50	30	10	70	50	30	10	70	50	30	10
RCR	119	119	119	119	116	116	116	116	111	111	111	111
0	108	104	99	95	106	101	97	94	97	94	91	87
1	98	90	83	77	96	88	82	76	85	79	74	68
2	90	79	71	64	87	78	70	63	74	68	62	57
3	82	70	61	54	80	69	61	54	66	59	53	47
4	75	62	53	46	73	61	53	46	59	51	46	40
5	69	56	47	40	68	55	46	40	53	46	40	34
6	64	51	42	36	63	50	41	35	48	41	35	30
7	60	46	38	32	58	46	37	32	44	37	31	26
8	56	42	34	28	55	42	34	28	41	34	28	23
9	52	39	31	26	51	39	31	26	38	30	26	20
10												

PHOTOMETRIC CURVE



LUMINANCE DATA (CD/M²)

Vertical Angle	Horizontal Angle		
	0	45	90
45	2465	2564	2793
55	2120	2292	2696
65	1628	1970	2502
75	1023	1608	2124
85	442	753	737

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1488.24	1488.24	1488.24	1488.24	1488.24
5	1441.36	1454.99	1475.14	1481.93	1479.61
10	1444.14	1435.92	1446.04	1456.23	1459.95
15	1392.06	1414.87	1411.86	1424.11	1439.49
20	1370.8	1360.1	1380.2	1400.56	1400.07
25	1308.5	1324.97	1339.05	1365.75	1384.15
30	1238.03	1246.1	1282.11	1325.41	1335.06
35	1133	1168.59	1210.03	1258.12	1277.45
40	1032.86	1053.57	1119.94	1183.31	1203.73
45	922.12	954.16	1033.21	1090	1116.84
50	796.22	829.11	912.06	990.93	1037.24
55	661.98	702.58	792.5	886.44	922.82
60	520.49	567	670.11	761.06	805.68
65	392.44	438.85	547.77	655.8	686.11
70	266.42	319.77	434.34	530.72	565.44
75	166.21	219.07	324.91	399.63	420.36
80	84.04	136.54	216.02	252.33	249.14
85	34.95	66.83	90.17	87.42	85.09
90	9.75	15.45	16.07	14.46	13.11

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-20	540.16	12.30
0-30	1158.74	26.50
0-40	1914.84	43.80
0-60	3410.99	78.00
0-80	4277.4	97.80
0-90	4375.25	100.00
10-90	4235.61	96.80
20-40	1374.68	31.40
20-50	2162.76	49.40
40-70	2036.24	46.50
60-80	866.41	19.80
70-80	326.31	7.50
80-90	97.86	2.20
90-110	0.00	0.00
90-120	0.00	0.00
90-130	0.00	0.00
90-150	0.00	0.00
90-180	0.00	0.00
110-180	0.00	0.00
0-180	4375.25	100.00

Meta Ice Perforated Basket Wide

File Name: TC9-2L35K-515-MPBW-L3

Luminaire Lumens: 4023

Total Watts: 25.3

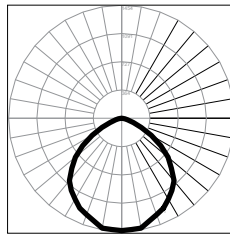
Efficacy: 83 lms/W

COEFFICIENTS OF UTILIZATION

Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

RC RW	80				70				50			
	70	50	30	10	70	50	30	10	70	50	30	10
RCR	119	119	119	119	116	116	116	116	111	111	111	111
0	109	105	101	97	107	102	99	95	98	95	92	87
1	100	92	85	80	97	90	84	79	87	81	77	70
2	91	81	73	67	89	80	72	66	77	70	65	57
3	84	72	63	57	81	71	63	57	68	61	56	48
4	77	64	56	49	75	63	55	49	61	54	48	40
5	71	58	49	43	69	57	49	43	55	48	42	34
6	66	53	44	38	64	52	44	38	50	43	37	30
7	61	48	40	34	60	47	39	34	46	39	33	26
8	57	44	36	30	56	43	36	30	42	35	30	23
9	54	41	33	27	52	40	32	27	39	32	27	20
10												

PHOTOMETRIC CURVE



LUMINANCE DATA (CD/M²)

Vertical Angle	Horizontal Angle		
	0	45	90
45	1596	1694	1877
55	1306	1427	1656
65	778	938	1155
75	345	651	886
85	196	438	539

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1442.81	1442.81	1442.81	1442.81	1442.81
5	1435.33	1416.55	1420.2	1454.19	1420.88
10	1432.76	1421.68	1411.43	1424.02	1431.63
15	1369.27	1378.13	1397	1400.32	1408.98
20	1319.07	1321.56	1359.56	1386.67	1390.58
25	1274.54	1283.97	1309.38	1353.43	1357.98
30	1201.45	1213.61	1261.55	1311.35	1350.21
35	1130.57	1152.63	1207.15	1286.85	1307.87
40	1047.96	1066.07	1150.93	1246.17	1277.84
45	906.93	949.64	1043.42	1139.53	1164.88
50	778.71	817.77	908.61	1024.71	1