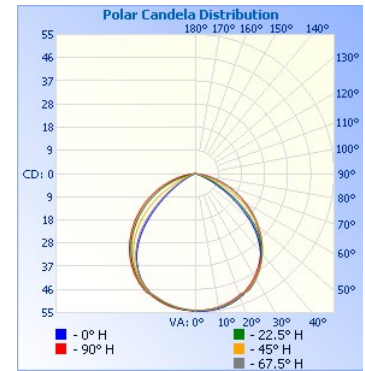


KICHLER®

KICHLER PHOTOMETRIC LAB

Filename: CTR180535-04
Manufacturer: Kichler Lighting LLC
Luminaire: 16103-27 Hardscape
Luminaire Cat: CTR180535-04
Lamp: Integrated LED AC
Lamp Output: Total luminaire Lumens: 131.6
Max Candela: 54.4 at Horizontal: 0°, Vertical: 4°
Input Wattage: 2.7
Luminous Opening: Rectangle (L: 16.92", W: 0.48")
Test: LM-79 Distribution
Test Lab: Kichler Lighting
Photometry : Type C
Nema Type: 7 X 6



Roadway Summary

Cutoff Classification:	FULL CUTOFF	
Distribution:	TYPE II, VERY SHORT	
Max Cd, 90 Deg Vert:	0	
Max Cd, 80 to <90 Deg:	4.5	
Lumens % Lamp		
Downward Street Side:	70.0	53.2%
Downward House Side:	61.6	46.8%
Downward Total:	131.6	100%
Upward Street Side:	0	0%
Upward House Side:	0	0%
Upward Total:	0	0%
Total Lumens:	131.6	100%

Flood Summary

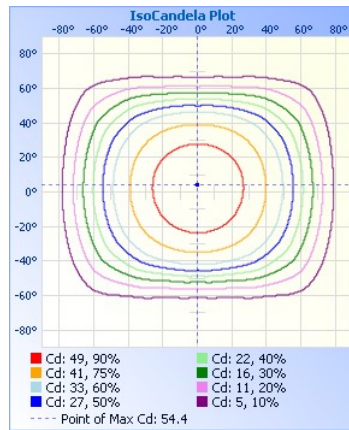
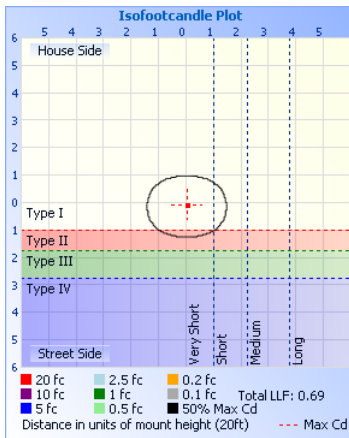
	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%):	98.3%	129.3	157.4	127.2
Beam (50%):	76.9%	101.1	110.3	95.4
Total:	100%	131.6		

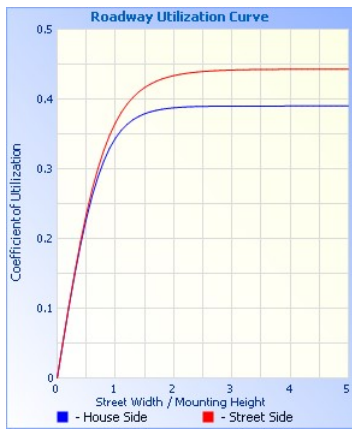
Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	42.7	32.4%
0-40	69.8	53%
0-60	116.3	88.4%
60-90	15.3	11.6%
70-100	4.0	3%
90-120	0	0%
0-90	131.6	100%
90-180	0	0%
0-180	131.6	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	5.1	3.9%	90-100	0	0%
10-20	14.8	11.3%	100-110	0	0%
20-30	22.7	17.3%	110-120	0	0%
30-40	27.1	20.6%	120-130	0	0%
40-50	26.4	20.0%	130-140	0	0%
50-60	20.2	15.3%	140-150	0	0%
60-70	11.3	8.6%	150-160	0	0%
70-80	3.7	2.8%	160-170	0	0%
80-90	0.3	0.2%	170-180	0	0%





Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50				30				10				0
RW %:	70	50	30	0	70	50	30	0	50	30	20	10	50	30	20	10	50	30	20	10	0
RCC: 0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.02	1.00	1.00
1	1.11	1.06	1.03	1.00	1.08	1.04	1.01	.88	1.00	.97	.95	.96	.94	.92	.93	.91	.89	.87	.85	.87	.87
2	1.02	.94	.88	.83	.99	.93	.87	.76	.89	.85	.81	.86	.82	.79	.83	.80	.77	.75	.73	.75	.75
3	.93	.84	.77	.71	.91	.82	.76	.66	.80	.74	.69	.77	.72	.68	.74	.70	.67	.65	.63	.65	.65
4	.86	.75	.67	.61	.84	.74	.66	.58	.71	.65	.60	.69	.63	.59	.67	.62	.58	.56	.54	.56	.56
5	.79	.67	.59	.53	.77	.66	.59	.51	.64	.57	.52	.62	.56	.52	.61	.55	.51	.49	.47	.49	.49
6	.73	.61	.53	.47	.72	.60	.52	.45	.58	.51	.46	.57	.50	.46	.55	.50	.45	.43	.41	.43	.43
7	.68	.55	.47	.41	.67	.55	.47	.40	.53	.46	.41	.52	.45	.41	.50	.45	.40	.38	.36	.38	.38
8	.64	.51	.43	.37	.62	.50	.42	.36	.49	.42	.37	.48	.41	.37	.46	.41	.36	.34	.32	.34	.34
9	.59	.47	.39	.33	.58	.46	.39	.33	.45	.38	.33	.44	.38	.33	.43	.37	.33	.31	.29	.31	.31
10	.56	.43	.35	.30	.55	.43	.35	.30	.42	.35	.30	.41	.34	.30	.40	.34	.30	.28	.26	.28	.28

Candela Table - Type C

	0	22.5	45	67.5	90	112.5	135	157.5	180
0	54	54	54	54	54	54	54	54	54
1	54	54	54	54	54	54	54	54	54
2	54	54	54	54	54	54	54	54	54
3	54	54	54	54	54	54	54	54	54
4	54	54	54	54	54	54	54	54	54
5	54	54	54	54	54	54	54	54	54
6	54	54	54	54	54	54	53	54	54
7	54	54	54	54	54	54	53	53	54
8	54	54	54	54	54	54	53	53	53
9	54	54	54	54	54	53	53	53	53
10	54	54	54	54	53	53	53	53	53
11	54	54	54	54	53	53	53	53	53
12	54	54	53	53	53	53	53	52	53
13	54	54	53	53	53	53	52	52	52
14	54	53	53	53	53	52	52	52	52
15	53	53	53	53	53	52	52	52	52
16	53	53	53	53	52	52	52	51	52
17	53	53	52	52	52	52	51	51	51
18	53	52	52	52	52	51	51	51	51
19	52	52	52	52	51	51	51	51	51
20	52	52	52	51	51	51	51	50	51
21	52	52	51	51	51	51	50	50	50
22	51	51	51	51	51	50	50	50	50
23	51	51	51	51	50	50	49	49	49
24	51	51	51	50	50	49	49	49	49
25	51	51	50	50	50	49	49	48	48
26	50	50	50	50	49	48	48	48	48
27	50	50	50	49	49	48	48	47	47
28	49	49	49	49	48	47	47	46	46
29	49	49	48	48	48	47	46	46	46
30	48	48	48	48	47	46	46	45	45
31	47	47	47	47	46	46	45	44	44
32	47	47	47	46	46	45	44	43	43
33	46	46	46	46	45	45	44	43	42
34	45	46	46	45	45	44	43	42	41
35	45	45	45	45	44	43	42	41	40
36	44	44	44	44	43	42	41	40	39
37	43	43	44	43	43	42	41	39	38
38	42	43	43	43	42	41	40	38	37
39	41	42	42	42	41	40	39	37	36
40	40	41	41	41	40	39	38	36	35
41	39	40	41	40	40	39	37	34	33
42	38	39	40	40	39	38	36	33	32
43	37	38	39	39	38	37	35	32	30
44	36	37	38	38	37	36	34	30	29
45	35	36	37	37	36	35	33	29	27
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47	32	34	35	35	35	33	31	26	24
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54	22	24	28	29	28	27	22	15	13
55	20	23	27	28	27	26	21	14	11
56	19	21	25	27	26	25	20	12	10
57	17	20	24	26	26	24	18	11	9
58	16	18	23	25	25	23	17	10	8
59	14	17	22	24	24	22	15	9	7
60	13	15	21	23	23	21	14	7	6
61	11	14	19	22	22	20	13	6	5
62	10	13	18	21	21	19	12	6	4
63	9	11	17	20	20	18	10	5	4
64	8	10	15	19	19	16	9	4	3
65	7	9	14	18	18	15	8	3	2
66	6	8	13	17	17	14	7	3	2
67	5	7	12	16	16	13	6	2	1
68	4	6	11	15	15	12	5	2	1
69	4	5	9	14	14	11	4	1	1
70	3	4	8	13	13	10	3	1	0
71	2	3	7	12	12	9	3	0	0
72	2	3	6	11	11	8	2	0	0
73	1	2	5	10	10	7	1	0	0
74	1	2	4	9	9	6	1	0	0
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76	0	1	2	7	8	4	0	0	0
77	0	0	2	6	7	3	0	0	0
78	0	0	1	5	6	3	0	0	0
79	0	0	1	4	5	2	0	0	0

80	0	0	0	3	5	1	0	0	0
81	0	0	0	2	4	0	0	0	0
82	0	0	0	2	3	0	0	0	0
83	0	0	0	1	2	0	0	0	0
84	0	0	0	0	2	0	0	0	0
85	0	0	0	0	1	0	0	0	0
86	0	0	0	0	1	0	0	0	0
87	0	0	0	0	0	0	0	0	0
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90	0	0	0	0	0	0	0	0	0
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92	0	0	0	0	0	0	0	0	0
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94	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0
96	0	0	0	0	0	0	0	0	0
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98	0	0	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0
101	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0
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106	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0
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117	0	0	0	0	0	0	0	0	0
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121	0	0	0	0	0	0	0	0	0
122	0	0	0	0	0	0	0	0	0
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125	0	0	0	0	0	0	0	0	0
126	0	0	0	0	0	0	0	0	0
127	0	0	0	0	0	0	0	0	0
128	0	0	0	0	0	0	0	0	0
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167	0	0	0	0	0	0	0	0	0
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170	0	0	0	0	0	0	0	0	0
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174	0	0	0	0	0	0	0	0	0
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176	0	0	0	0	0	0	0	0	0
177	0	0	0	0	0	0	0	0	0
178	0	0	0	0	0	0	0	0	0
179	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0

Luminaire Report Summary

IESNA:LM-63-2002
[TEST] LM-79 Distribution
[TESTLAB] Kichler Lighting
[ISSUEDATE] 3/5/2019
[MANUFAC] Kichler Lighting LLC
[LUMCAT] CTR180535-04
[LUMINAIRE] 16103-27 Hardscape
[LAMP] Integrated LED AC

FILE: CREATED USING ABSOLUTE PHOTOMETRY
FILE: CANDELA MULTIPLIER: 1
FILE: VERTICAL ANGLES: 181, HORIZONTAL ANGLES: 9
FILE: COORDINATE SYSTEM: TYPE C
FILE: UNIT OF MEASURE: STANDARD
FILE: BALLAST FACTOR: 1

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Reported data calculated from manufacturer's data file, based on IES recommended methods.