

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P242013

Luminaire Tested: **PRS410D010-S4M12-41SWWH**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P242013
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1802-584-62)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: PRS410D010-S4M12-41SWWH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, WITH 4" WALL WASH DISTRIBUTION, WW TRIM HAZE
Light Source: ARRAYS OF HIGH LUMEN LEDS 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 575.0 lumens
Efficiency: N/A
Efficacy: 57.5 lumens/watt
Spacing Criteria (0/90/45): 1 / 0.96 / 1.05
Luminous Opening: Rectangular (W 0.38' x L: 0.38' x H: 0')
CIE Type: Direct

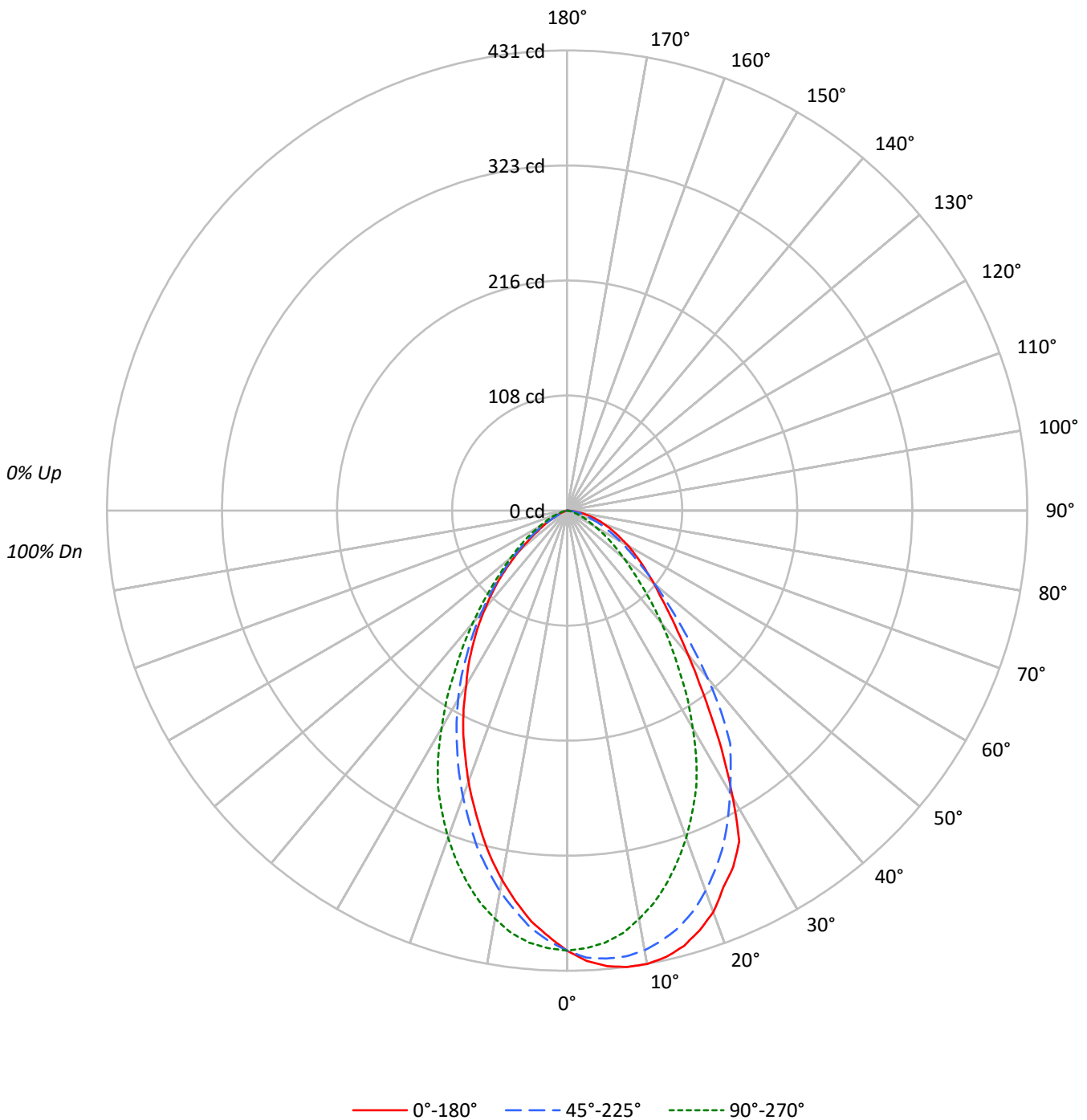
Input Watts (W): 10
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	112	108	105	102	109	106	103	101	102	100	97		98	96	95		95	93	92	90
2	104	98	93	88	102	96	91	87	93	89	86		90	87	84		87	84	82	80
3	97	89	83	78	95	88	82	77	85	80	76		82	78	74		80	76	73	71
4	91	81	74	69	89	80	73	68	78	72	68		76	71	67		74	69	66	64
5	85	74	67	62	83	73	67	61	71	65	61		70	64	60		68	63	60	58
6	79	68	61	56	78	68	61	56	66	60	55		64	59	55		63	58	54	53
7	75	63	56	51	73	62	56	51	61	55	50		60	54	50		59	53	50	48
8	70	59	51	46	69	58	51	46	57	51	46		56	50	46		55	49	46	44
9	66	55	48	43	65	54	47	43	53	47	42		52	46	42		51	46	42	41
10	62	51	44	40	61	51	44	39	50	44	39		49	43	39		48	43	39	38

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	31551	31551	31551
5°	32901	31211	29674
10°	33515	30173	27289
15°	33457	28615	24653
20°	32599	26563	22001
25°	31088	24163	19433
30°	27408	20779	16714
35°	21968	17109	14399
40°	17596	13699	11891
45°	14516	10608	9526
50°	12623	8217	6907
55°	11210	6406	4404
60°	10104	4746	2909
65°	9056	3441	1811
70°	8281	2462	1119
75°	7394	1479	591
80°	6171	882	441
85°	4391	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.3	6.7
10°-20°	102.0	17.7
20°-30°	134.3	23.4
30°-40°	124.7	21.7
40°-50°	87.1	15.1
50°-60°	51.1	8.9
60°-70°	25.4	4.4
70°-80°	10.2	1.8
80°-90°	1.9	0.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	274.6	47.8
0°-40°	399.3	69.5
0°-60°	537.5	93.5
0°-90°	575.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	575.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	412	412	412	412	412	
5°	428	421	406	392	386	41
15°	422	404	361	326	311	118
25°	368	346	286	244	230	167
35°	235	266	183	163	154	148
45°	134	148	98	91	88	105
55°	84	78	48	39	33	75
65°	50	40	19	8	10	50
75°	25	17	5	2	2	26
85°	5	3	0	0	0	6
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2
2.5°	422.2	421.2	421.2	421.2	421.2	420.2	420.2	420.2	419.2	419.2	419.2
5°	428.2	428.2	427.2	427.2	426.2	426.2	426.2	425.2	424.2	423.2	421.2
7.5°	431.2	431.2	430.2	430.2	429.2	428.2	428.2	426.2	425.2	423.2	421.2
10°	431.2	431.2	430.2	430.2	428.2	427.2	427.2	426.2	423.2	421.2	418.2
12.5°	428.2	428.2	427.2	426.2	425.2	424.2	423.2	421.2	418.2	415.2	412.2
15°	422.2	422.2	421.2	420.2	418.2	417.2	416.2	414.2	411.2	407.2	404.2
17.5°	412.2	412.2	411.2	410.2	409.2	407.2	406.2	403.2	400.2	397.2	393.2
20°	400.2	399.2	399.2	398.2	396.2	396.2	394.2	391.2	388.2	383.2	379.2
22.5°	382.2	383.2	383.2	381.2	379.2	379.2	377.2	376.2	372.1	368.1	363.1
25°	368.1	367.1	367.1	365.1	362.1	362.1	361.1	358.1	354.1	350.1	346.1
27.5°	349.1	348.1	348.1	348.1	345.1	345.1	343.1	339.1	335.1	332.1	326.1
30°	310.1	313.1	313.1	316.1	319.1	321.1	323.1	321.1	316.1	311.1	305.1
32.5°	272.1	274.1	276.1	279.1	283.1	286.1	289.1	292.1	296.1	291.1	285.1
35°	235.1	237.1	238.1	242.1	247.1	248.1	252.1	259.1	263.1	267.1	266.1
37.5°	203.1	204.1	206.1	209.1	213.1	216.1	219.1	224.1	231.1	237.1	236.1
40°	176.1	175.1	178.1	179.1	183.1	186.1	190.1	194.1	201.1	204.1	204.1
42.5°	153.1	153.1	154.1	156.1	159.1	161.1	163.1	167.1	173.1	174.1	174.1
45°	134.1	134.1	135.1	137.1	139.1	139.1	142.1	146.1	147.1	148.1	148.1
47.5°	118.0	119.0	119.0	120.0	121.0	123.0	124.0	126.1	126.1	126.1	126.1
50°	106.0	106.0	106.0	107.0	108.0	109.0	109.0	109.0	109.0	108.0	107.0
52.5°	94.0	94.0	94.0	95.0	95.0	96.0	96.0	95.0	94.0	93.0	92.0
55°	84.0	83.0	84.0	84.0	85.0	85.0	84.0	83.0	82.0	80.0	78.0
57.5°	74.0	74.0	74.0	74.0	75.0	74.0	74.0	73.0	71.0	69.0	67.0
60°	66.0	65.0	65.0	65.0	66.0	65.0	65.0	63.0	62.0	59.0	57.0
62.5°	57.0	57.0	57.0	58.0	57.0	57.0	56.0	54.0	53.0	51.0	49.0
65°	50.0	50.0	50.0	50.0	49.0	48.0	48.0	46.0	45.0	43.0	40.0
67.5°	43.0	43.0	43.0	43.0	42.0	41.0	41.0	39.0	38.0	36.0	34.0
70°	37.0	36.0	37.0	36.0	35.0	34.0	34.0	33.0	31.0	29.0	27.0
72.5°	31.0	31.0	31.0	30.0	29.0	28.0	28.0	26.0	25.0	24.0	22.0
75°	25.0	25.0	25.0	24.0	23.0	23.0	22.0	21.0	20.0	19.0	17.0
77.5°	19.0	19.0	19.0	19.0	18.0	17.0	17.0	16.0	15.0	14.0	13.0
80°	14.0	14.0	14.0	13.0	13.0	13.0	12.0	12.0	11.0	10.0	9.0
82.5°	9.0	9.0	9.0	9.0	8.0	8.0	8.0	7.0	7.0	6.0	5.0
85°	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0
87.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2
2.5°	418.2	417.2	416.2	415.2	415.2	414.2	413.2	412.2	411.2	410.2	410.2
5°	420.2	418.2	417.2	415.2	414.2	414.2	412.2	410.2	408.2	406.2	404.2
7.5°	419.2	417.2	414.2	412.2	411.2	409.2	407.2	404.2	401.2	399.2	396.2
10°	415.2	412.2	409.2	405.2	404.2	402.2	399.2	395.2	392.2	388.2	385.2
12.5°	409.2	405.2	401.2	397.2	395.2	393.2	389.2	384.2	380.2	376.2	371.1
15°	399.2	396.2	390.2	386.2	383.2	381.2	376.2	371.1	366.1	361.1	357.1
17.5°	387.2	383.2	378.2	372.1	369.1	367.1	361.1	354.1	349.1	344.1	340.1
20°	375.2	369.1	363.1	357.1	353.1	351.1	344.1	337.1	332.1	326.1	320.1
22.5°	359.1	352.1	346.1	339.1	336.1	332.1	326.1	318.1	311.1	306.1	299.1
25°	340.1	335.1	327.1	320.1	316.1	313.1	305.1	299.1	292.1	286.1	279.1
27.5°	321.1	314.1	308.1	301.1	296.1	292.1	285.1	277.1	270.1	262.1	256.1
30°	300.1	295.1	287.1	276.1	271.1	267.1	258.1	249.1	242.1	235.1	230.1
32.5°	279.1	269.1	260.1	250.1	245.1	241.1	231.1	224.1	216.1	210.1	205.1
35°	254.1	244.1	234.1	222.1	218.1	213.1	204.1	197.1	189.1	183.1	179.1
37.5°	229.1	217.1	206.1	197.1	193.1	187.1	179.1	171.1	165.1	160.1	155.1
40°	202.1	192.1	182.1	171.1	167.1	163.1	155.1	149.1	141.1	137.1	133.1
42.5°	172.1	168.1	158.1	149.1	144.1	140.1	132.1	126.1	121.0	117.0	113.0
45°	146.1	143.1	136.1	127.1	124.0	120.0	113.0	106.0	102.0	98.0	95.0
47.5°	124.0	121.0	116.0	108.0	104.0	101.0	95.0	90.0	86.0	82.0	80.0
50°	105.0	102.0	97.0	92.0	89.0	85.0	80.0	76.0	72.0	69.0	67.0
52.5°	89.0	86.0	81.0	77.0	75.0	72.0	67.0	64.0	60.0	58.0	56.0
55°	76.0	73.0	69.0	65.0	63.0	60.0	56.0	52.0	50.0	48.0	46.0
57.5°	65.0	61.0	58.0	55.0	53.0	50.0	46.0	44.0	41.0	39.0	37.0
60°	55.0	52.0	49.0	45.0	43.0	42.0	38.0	35.0	33.0	31.0	29.0
62.5°	46.0	43.0	40.0	37.0	36.0	34.0	31.0	28.0	26.0	24.0	23.0
65°	38.0	36.0	33.0	30.0	29.0	27.0	24.0	22.0	20.0	19.0	18.0
67.5°	32.0	29.0	27.0	24.0	23.0	22.0	19.0	17.0	16.0	15.0	13.0
70°	25.0	23.0	21.0	19.0	18.0	17.0	15.0	13.0	12.0	11.0	10.0
72.5°	20.0	18.0	16.0	14.0	13.0	13.0	11.0	10.0	9.0	8.0	7.0
75°	16.0	14.0	12.0	11.0	10.0	9.0	8.0	7.0	6.0	5.0	5.0
77.5°	11.0	10.0	9.0	7.0	7.0	6.0	5.0	5.0	4.0	4.0	3.0
80°	8.0	7.0	6.0	5.0	4.0	4.0	3.0	3.0	2.0	2.0	2.0
82.5°	5.0	4.0	3.0	3.0	3.0	2.0	2.0	2.0	1.0	1.0	1.0
85°	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
87.5°	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2
2.5°	409.2	408.2	407.2	406.2	406.2	406.2	404.2	404.2	403.2	402.2	402.2
5°	403.2	401.2	399.2	399.2	397.2	396.2	395.2	393.2	392.2	391.2	390.2
7.5°	393.2	391.2	388.2	387.2	386.2	384.2	381.2	380.2	377.2	376.2	375.2
10°	382.2	378.2	376.2	373.1	373.1	369.1	367.1	364.1	362.1	360.1	358.1
12.5°	368.1	363.1	359.1	358.1	356.1	352.1	350.1	346.1	344.1	342.1	340.1
15°	352.1	348.1	343.1	341.1	339.1	335.1	332.1	329.1	326.1	323.1	321.1
17.5°	334.1	330.1	324.1	322.1	321.1	316.1	312.1	308.1	305.1	303.1	300.1
20°	315.1	310.1	305.1	303.1	301.1	297.1	293.1	289.1	285.1	282.1	280.1
22.5°	294.1	288.1	284.1	282.1	280.1	275.1	272.1	268.1	265.1	262.1	260.1
25°	274.1	268.1	263.1	261.1	258.1	254.1	251.1	248.1	244.1	241.1	239.1
27.5°	251.1	245.1	241.1	240.1	237.1	234.1	230.1	226.1	224.1	221.1	219.1
30°	226.1	222.1	219.1	216.1	215.1	212.1	210.1	207.1	204.1	201.1	198.1
32.5°	200.1	197.1	193.1	193.1	192.1	190.1	188.1	186.1	184.1	182.1	179.1
35°	176.1	172.1	170.1	170.1	168.1	167.1	167.1	165.1	163.1	162.1	161.1
37.5°	152.1	150.1	147.1	147.1	146.1	146.1	145.1	144.1	144.1	144.1	143.1
40°	130.1	128.1	126.1	125.1	125.1	125.1	124.0	125.1	125.1	125.1	125.1
42.5°	110.0	109.0	107.0	107.0	107.0	107.0	107.0	107.0	107.0	108.0	108.0
45°	94.0	92.0	91.0	90.0	91.0	90.0	90.0	91.0	91.0	92.0	91.0
47.5°	78.0	78.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	77.0
50°	66.0	64.0	64.0	63.0	63.0	63.0	63.0	63.0	62.0	63.0	63.0
52.5°	55.0	53.0	53.0	52.0	52.0	51.0	51.0	50.0	50.0	50.0	50.0
55°	45.0	43.0	43.0	42.0	42.0	41.0	41.0	40.0	39.0	39.0	38.0
57.5°	36.0	34.0	34.0	33.0	33.0	32.0	31.0	30.0	29.0	29.0	28.0
60°	28.0	27.0	26.0	26.0	25.0	24.0	23.0	21.0	20.0	20.0	19.0
62.5°	22.0	21.0	20.0	19.0	19.0	17.0	16.0	14.0	13.0	12.0	13.0
65°	17.0	16.0	15.0	14.0	13.0	12.0	10.0	9.0	8.0	9.0	9.0
67.5°	12.0	11.0	10.0	10.0	9.0	8.0	6.0	6.0	6.0	6.0	7.0
70°	9.0	8.0	7.0	6.0	5.0	4.0	4.0	4.0	4.0	4.0	5.0
72.5°	6.0	5.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
75°	4.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
77.5°	3.0	2.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	2.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	0.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CATALOG NUMBER: PRS410D010-S4M12-41SWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	412.2	412.2	412.2	412.2	412.2	412.2	412.2	412.2
2.5°	402.2	401.2	401.2	400.2	400.2	401.2	400.2	399.2
5°	388.2	388.2	388.2	387.2	386.2	386.2	386.2	386.2
7.5°	373.1	372.1	372.1	372.1	371.1	369.1	369.1	369.1
10°	356.1	354.1	354.1	353.1	353.1	352.1	352.1	351.1
12.5°	338.1	336.1	335.1	334.1	333.1	332.1	333.1	332.1
15°	319.1	317.1	315.1	315.1	314.1	312.1	312.1	311.1
17.5°	298.1	295.1	295.1	294.1	292.1	292.1	291.1	290.1
20°	277.1	275.1	274.1	273.1	272.1	270.1	270.1	270.1
22.5°	256.1	254.1	253.1	253.1	252.1	250.1	250.1	249.1
25°	236.1	234.1	233.1	232.1	231.1	231.1	230.1	230.1
27.5°	217.1	214.1	214.1	212.1	211.1	210.1	210.1	210.1
30°	196.1	195.1	193.1	194.1	191.1	191.1	191.1	189.1
32.5°	177.1	176.1	175.1	175.1	173.1	172.1	173.1	172.1
35°	159.1	158.1	157.1	156.1	155.1	155.1	154.1	154.1
37.5°	142.1	140.1	139.1	139.1	138.1	138.1	137.1	137.1
40°	124.0	124.0	123.0	122.0	121.0	120.0	119.0	119.0
42.5°	108.0	107.0	106.0	106.0	105.0	103.0	103.0	103.0
45°	92.0	91.0	90.0	90.0	89.0	88.0	87.0	88.0
47.5°	76.0	76.0	76.0	75.0	74.0	73.0	72.0	72.0
50°	63.0	62.0	62.0	62.0	60.0	59.0	58.0	58.0
52.5°	50.0	49.0	49.0	49.0	48.0	46.0	45.0	45.0
55°	38.0	38.0	38.0	37.0	36.0	35.0	34.0	33.0
57.5°	27.0	27.0	27.0	27.0	27.0	27.0	26.0	26.0
60°	19.0	20.0	20.0	21.0	21.0	20.0	19.0	19.0
62.5°	14.0	15.0	15.0	15.0	15.0	14.0	14.0	14.0
65°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
67.5°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
70°	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0
72.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
75°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
77.5°	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)