

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P646682

Luminaire Tested: S123RDR-S340D935-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2019
Report Number: P646682
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2)
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDR-S340D935-X4F0-XX-UDD-G-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH WALL GRAZE FLUSH OPTIC STANDARD LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

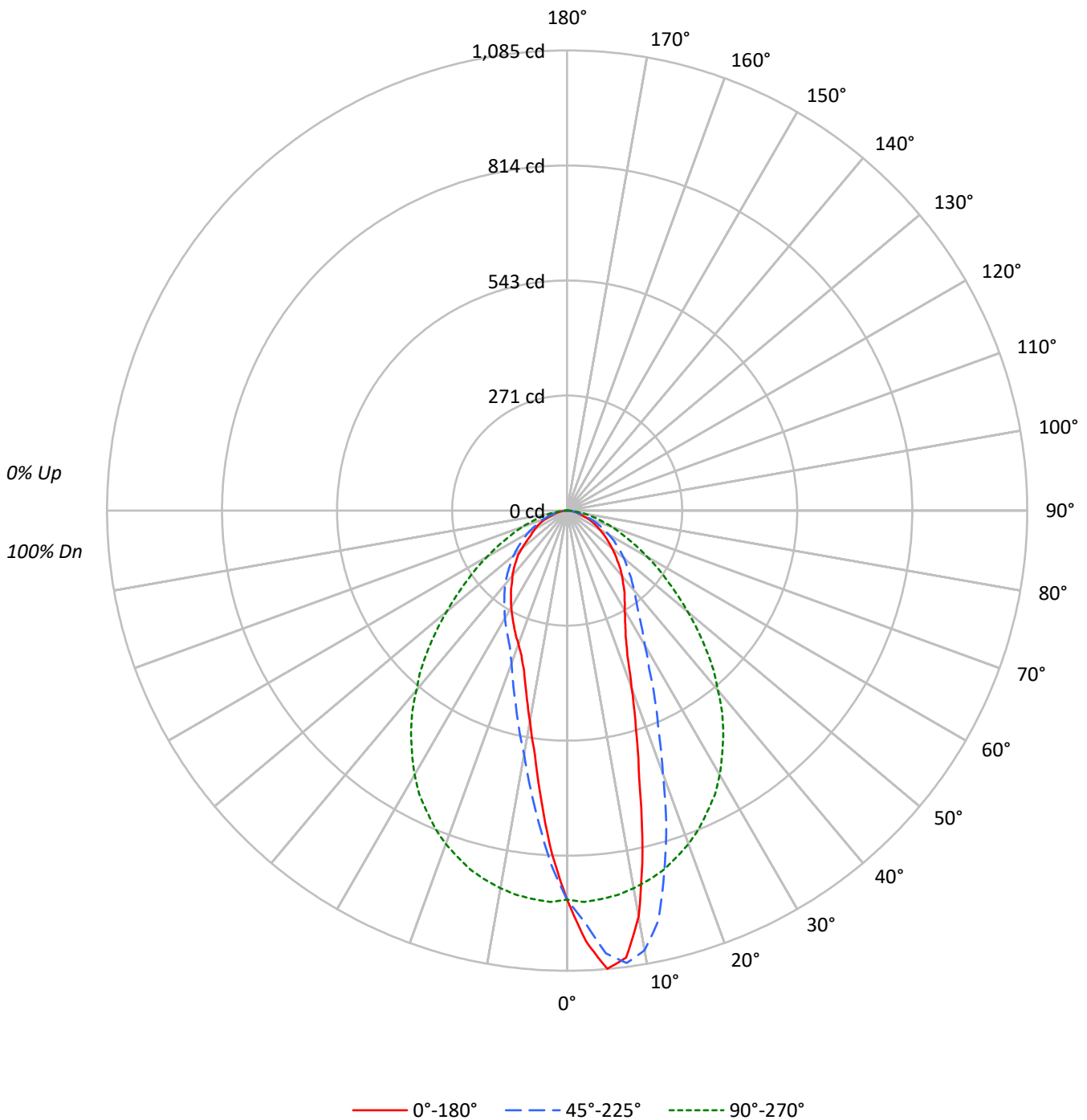
Lumens per Lamp: N/A
Luminaire Lumens: 1214.7 lumens
Efficiency: N/A
Efficacy: 102.1 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.79
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

Input Watts (W): 11.9
Input Voltage (V): 120
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: 24 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	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					100			
1	111	107	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89					87				
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78					76				
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69					67				
4	88	77	69	64	85	76	69	63	73	67	62	71	66	62	69	65	61					59				
5	82	70	62	56	80	69	62	56	67	61	56	65	60	55	63	58	54					53				
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	59	53	49					47				
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45					43				
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41					39				
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38					36				
10	60	47	40	36	58	47	40	35	46	40	35	45	39	35	44	39	35					33				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	11048	11048	11048	11048	11048
5°	13118	12672	11118	9017	8343
10°	11885	12879	11062	7138	6177
15°	8183	11030	10945	5862	4886
20°	5693	8460	10725	4912	4296
25°	4338	6492	10406	4389	3958
30°	3776	5105	10006	4079	3666
35°	3467	4297	9439	3804	3401
40°	3163	3855	8698	3572	3157
45°	2858	3529	7898	3318	2914
50°	2592	3277	6954	3087	2615
55°	2346	3008	6050	2819	2244
60°	2101	2735	5253	2581	2121
65°	1939	2432	4522	2292	2004
70°	1575	2079	3946	2079	1628
75°	1383	1681	3343	1732	1434
80°	1249	1409	2741	1464	1353
85°	1147	1189	2074	1300	1244

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 8334 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.6	6.9
10°-20°	193.3	15.9
20°-30°	221.8	18.3
30°-40°	218.5	18.0
40°-50°	192.6	15.9
50°-60°	148.2	12.2
60°-70°	97.5	8.0
70°-80°	47.3	3.9
80°-90°	11.9	1.0
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°	498.7	41.1
0°-40°	717.2	59.0
0°-60°	1058.0	87.1
0°-90°	1214.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1214.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	917	917	917	917	917	
5°	1085	1048	919	746	690	99
15°	656	884	877	470	392	185
25°	326	488	783	330	298	154
35°	236	292	642	259	231	147
45°	168	207	464	195	171	130
55°	112	143	288	134	107	100
65°	68	85	159	80	70	67
75°	30	36	72	37	31	32
85°	8	9	15	9	9	9
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9
2.5°	1016.1	1009.8	1007.9	1005.6	1001.9	988.3	972.9	974.4	972.5	960.9	954.5
5°	1084.6	1085.3	1083.4	1081.9	1075.5	1059.0	1047.7	1041.0	1026.7	1004.9	998.1
7.5°	1063.5	1075.5	1077.8	1080.4	1083.8	1080.1	1075.9	1073.3	1061.6	1037.9	1027.0
10°	971.4	970.7	984.2	995.1	1024.4	1045.1	1052.6	1063.5	1073.3	1056.7	1044.7
12.5°	821.0	822.2	866.5	866.5	904.5	957.1	991.0	1013.9	1056.0	1057.1	1050.0
15°	656.0	674.4	713.9	722.2	771.0	841.7	884.2	931.6	1013.1	1038.7	1037.2
17.5°	538.7	546.6	584.6	595.5	638.7	718.8	777.4	834.6	948.9	1002.6	1012.4
20°	444.0	451.1	478.6	486.8	530.4	606.8	659.8	721.4	871.0	953.4	970.7
22.5°	370.7	384.6	403.0	415.8	440.6	518.4	563.9	622.9	780.8	898.1	918.4
25°	326.3	332.7	348.5	354.5	384.6	436.1	488.3	540.2	700.7	828.9	864.6
27.5°	296.2	298.1	309.8	315.0	333.1	380.8	418.4	466.5	619.2	757.9	799.6
30°	271.4	274.8	283.8	285.0	300.7	334.6	366.9	411.3	547.7	689.1	731.9
32.5°	252.3	254.1	261.6	263.9	274.1	300.7	327.1	359.4	481.6	617.3	666.5
35°	235.7	236.1	241.7	244.7	253.8	275.9	292.1	319.2	428.6	557.9	601.1
37.5°	216.9	219.5	223.7	226.3	234.2	252.3	266.9	288.0	379.7	501.5	541.7
40°	201.1	203.4	208.3	209.4	216.5	233.1	245.1	263.9	337.6	447.4	488.3
42.5°	185.3	186.8	191.7	194.0	201.9	215.0	225.9	240.6	304.1	399.2	439.5
45°	167.7	171.4	176.7	177.8	185.3	198.9	207.1	220.7	274.1	357.5	393.2
47.5°	153.0	154.9	159.4	161.3	169.9	182.0	190.6	202.3	248.1	319.5	354.5
50°	138.3	139.1	143.2	145.9	152.6	166.5	174.8	185.3	224.4	288.7	313.2
52.5°	124.4	126.3	130.4	132.3	136.8	151.1	158.6	169.5	201.9	257.1	281.6
55°	111.7	112.8	115.8	118.0	123.3	135.7	143.2	152.6	182.3	228.2	249.6
57.5°	99.6	101.1	103.4	105.3	110.1	121.1	128.6	138.0	163.9	201.9	218.4
60°	87.2	89.1	91.7	92.5	97.0	106.8	113.5	121.8	145.1	177.4	192.1
62.5°	78.2	78.6	80.8	82.0	84.6	92.5	99.6	107.5	128.2	153.8	165.8
65°	68.0	69.2	70.3	71.1	73.3	80.1	85.3	91.4	111.7	133.8	142.1
67.5°	57.5	58.6	60.5	61.3	63.2	67.7	72.2	78.2	95.1	113.9	121.4
70°	44.7	44.7	47.7	49.2	52.3	55.6	59.0	64.3	78.9	95.1	100.7
72.5°	36.5	36.8	37.2	37.2	39.8	45.5	47.4	50.8	62.4	77.8	82.7
75°	29.7	30.1	30.5	30.8	31.2	33.1	36.1	39.1	47.7	59.0	63.5
77.5°	23.7	24.1	24.4	24.4	25.2	25.9	26.7	28.2	34.2	42.5	46.2
80°	18.0	18.4	18.8	18.8	19.2	19.9	20.3	21.1	22.9	28.6	30.5
82.5°	13.2	13.2	13.2	13.5	13.9	13.9	14.7	14.7	15.8	17.3	18.4
85°	8.3	8.3	8.6	8.6	8.6	9.0	8.6	9.0	9.4	9.8	10.5
87.5°	3.8	3.4	3.8	3.8	3.8	4.1	4.1	4.1	4.1	4.5	4.5
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9
2.5°	936.8	923.7	901.5	887.6	882.3	866.1	850.7	838.0	831.6	830.8	819.2
5°	955.2	919.2	873.3	834.9	825.9	797.7	761.3	745.5	724.8	716.5	706.8
7.5°	970.3	913.9	846.2	788.3	771.4	728.9	682.3	661.6	645.9	621.0	606.4
10°	980.8	904.1	813.1	738.3	714.3	664.6	608.3	583.4	568.8	540.2	528.6
12.5°	984.9	891.7	780.1	686.5	665.4	606.4	551.1	525.6	503.7	477.8	466.5
15°	983.4	877.4	746.2	638.7	612.4	552.6	494.0	469.9	449.6	423.7	409.0
17.5°	973.3	857.1	709.4	592.5	567.3	505.6	446.2	424.1	406.0	380.8	369.5
20°	956.4	836.4	677.1	550.4	521.8	462.8	406.8	383.1	367.3	353.8	345.5
22.5°	933.1	812.0	637.6	508.6	483.8	424.4	370.7	351.5	342.1	331.2	325.2
25°	897.7	782.7	601.9	473.7	448.9	389.8	342.9	330.1	320.7	313.5	307.1
27.5°	859.8	754.5	566.2	438.3	415.0	358.6	321.0	311.3	303.0	294.0	288.3
30°	815.8	719.2	532.3	407.1	384.6	333.5	302.2	293.2	286.5	276.7	271.0
32.5°	763.9	680.4	500.7	377.1	356.0	311.6	285.0	275.2	269.5	260.1	254.5
35°	710.1	641.7	466.2	349.2	330.1	292.5	268.0	258.6	252.6	243.2	237.6
37.5°	657.5	600.4	435.3	324.8	307.5	273.3	250.4	242.5	236.8	227.1	220.3
40°	601.9	553.0	405.3	301.9	285.7	256.4	234.2	227.1	219.5	210.9	204.1
42.5°	543.6	511.3	377.4	281.6	266.5	239.8	218.0	210.5	204.1	194.0	191.0
45°	489.1	463.5	348.1	260.1	248.1	223.3	202.3	194.7	187.6	178.9	175.9
47.5°	440.6	416.9	321.4	241.3	229.3	207.1	186.5	178.6	173.3	166.5	162.0
50°	390.6	371.0	292.1	222.9	211.6	189.8	169.9	164.7	158.6	150.4	147.0
52.5°	344.0	328.9	268.0	205.3	194.7	175.2	154.9	149.6	144.0	136.8	132.0
55°	303.0	288.0	240.6	185.3	177.4	159.0	141.0	134.2	129.7	121.4	115.4
57.5°	260.9	253.8	214.3	168.8	161.3	142.9	126.7	121.4	115.8	106.8	100.7
60°	226.3	218.0	189.8	150.7	143.6	128.2	112.4	107.1	101.9	93.2	90.6
62.5°	193.6	187.6	166.2	133.8	127.8	112.8	98.9	94.0	88.7	83.1	81.2
65°	163.9	158.6	142.5	116.5	111.7	98.5	85.7	80.4	77.1	74.4	72.6
67.5°	136.1	133.1	120.7	100.4	96.6	85.0	73.7	69.5	67.7	64.7	63.2
70°	110.9	112.0	100.7	85.7	81.6	72.2	62.4	59.0	56.8	54.1	51.1
72.5°	90.6	90.2	83.5	69.9	66.9	59.4	51.9	49.6	47.0	41.7	38.3
75°	70.3	71.8	65.4	57.9	54.9	47.4	40.2	37.2	34.6	32.7	31.6
77.5°	53.8	54.5	51.5	44.4	41.7	35.3	29.7	28.2	27.1	25.9	25.6
80°	38.3	39.5	36.5	32.0	29.7	24.4	21.4	21.1	20.7	19.9	19.5
82.5°	24.8	26.3	24.8	19.9	18.8	16.2	15.4	15.4	15.0	14.7	14.3
85°	13.5	15.0	14.3	11.7	10.9	10.2	9.8	9.4	9.4	9.4	9.4
87.5°	5.3	7.1	6.0	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
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):

	160°	170°	180°
0°	916.9	916.9	916.9
2.5°	816.5	812.8	811.3
5°	704.1	692.5	689.8
7.5°	601.9	597.0	580.8
10°	526.7	511.6	504.9
12.5°	459.0	445.1	442.8
15°	404.9	395.1	391.7
17.5°	369.2	362.4	358.3
20°	342.9	338.0	335.0
22.5°	322.9	319.2	316.9
25°	305.3	299.6	297.7
27.5°	287.2	282.3	280.4
30°	270.3	266.2	263.5
32.5°	252.6	247.7	246.2
35°	235.7	232.7	231.2
37.5°	219.2	215.4	213.2
40°	203.8	201.9	200.7
42.5°	189.8	186.5	186.1
45°	175.2	171.8	171.0
47.5°	161.3	158.3	157.9
50°	146.6	142.5	139.5
52.5°	128.9	125.2	122.6
55°	113.2	109.0	106.8
57.5°	100.0	98.1	97.0
60°	89.8	88.7	88.0
62.5°	80.8	79.7	79.7
65°	72.6	71.4	70.3
67.5°	62.4	60.1	59.8
70°	50.0	46.6	46.2
72.5°	38.0	37.6	36.8
75°	31.6	30.8	30.8
77.5°	25.6	24.8	24.8
80°	19.5	19.2	19.5
82.5°	14.3	14.3	13.9
85°	9.4	9.0	9.0
87.5°	4.5	4.5	4.5
90°	0.0	0.0	0.0

(END OF REPORT)