

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: P646677

Luminaire Tested: S123RDR-S340D835-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2019
Report Number: P646677
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-S340D835-X4F0-XX-UDD-G-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH WALL GRAZE FLUSH OPTIC
STANDARD LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

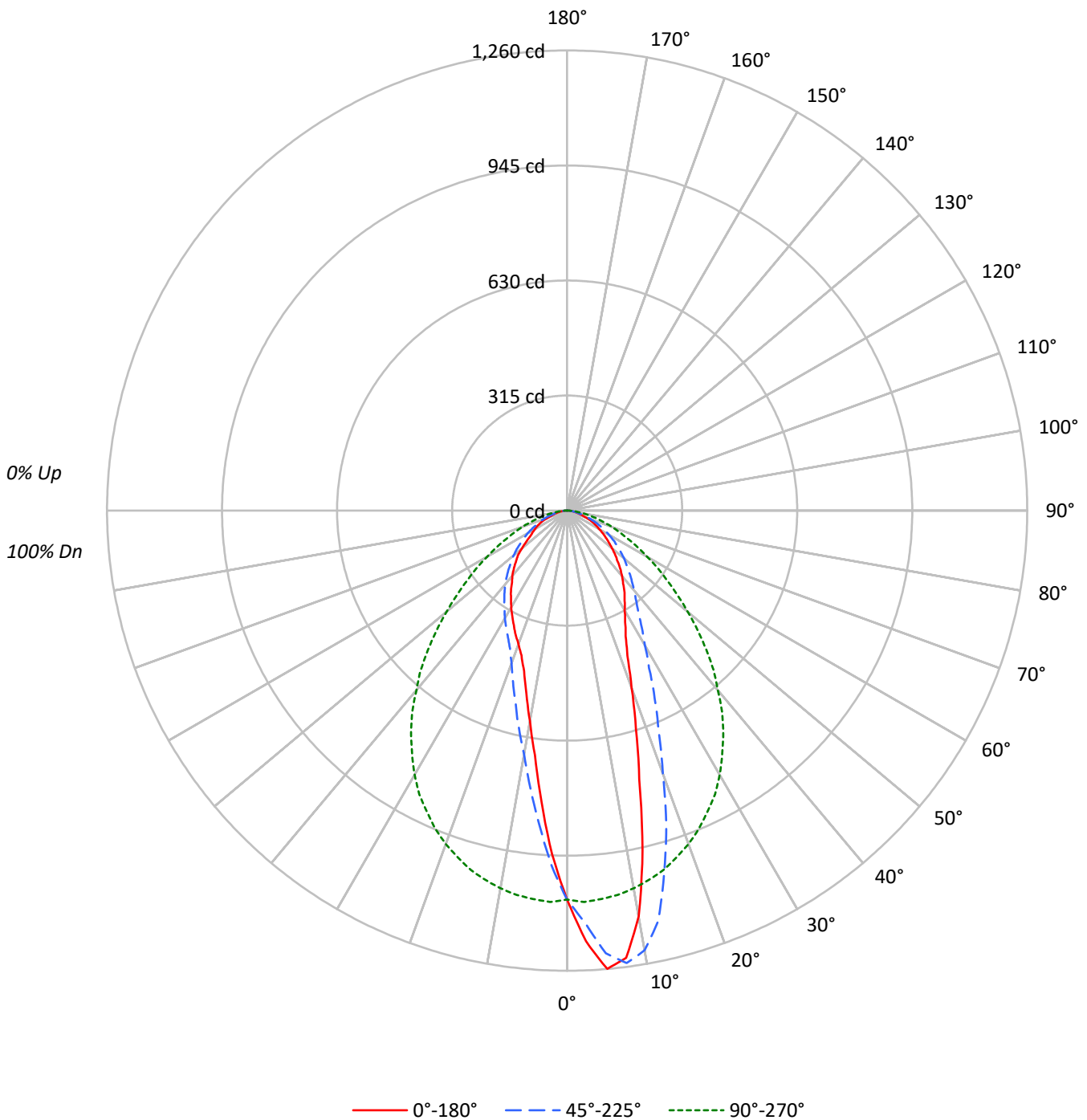
Lumens per Lamp: N/A
Luminaire Lumens: 1410.9 lumens
Efficiency: N/A
Efficacy: 118.6 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.79
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

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°	12831	12831	12831	12831	12831
5°	15236	14719	12912	10472	9691
10°	13804	14957	12848	8290	7175
15°	9504	12810	12712	6808	5676
20°	6613	9826	12457	5705	4988
25°	5039	7541	12086	5097	4597
30°	4385	5928	11622	4739	4259
35°	4027	4991	10963	4419	3949
40°	3674	4478	10103	4148	3668
45°	3318	4100	9174	3854	3386
50°	3012	3805	8077	3584	3037
55°	2725	3496	7027	3275	2605
60°	2441	3179	6102	2998	2463
65°	2252	2825	5255	2663	2326
70°	1832	2413	4583	2413	1892
75°	1606	1951	3883	2011	1667
80°	1457	1638	3178	1700	1575
85°	1327	1382	2419	1507	1452

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 9679 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.1	6.9
10°-20°	224.6	15.9
20°-30°	257.6	18.3
30°-40°	253.8	18.0
40°-50°	223.7	15.9
50°-60°	172.1	12.2
60°-70°	113.2	8.0
70°-80°	55.0	3.9
80°-90°	13.9	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°	579.2	41.1
0°-40°	833.0	59.0
0°-60°	1228.8	87.1
0°-90°	1410.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1410.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1065	1065	1065	1065	1065	
5°	1260	1217	1068	866	801	115
15°	762	1027	1019	546	455	215
25°	379	567	909	383	346	179
35°	274	339	745	300	268	171
45°	195	241	538	226	199	151
55°	130	166	334	156	124	116
65°	79	99	184	93	82	77
75°	34	42	83	43	36	37
85°	10	10	18	11	10	11
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°	1064.9	1064.9	1064.9	1064.9	1064.9	1064.9	1064.9	1064.9	1064.9	1064.9	1064.9
2.5°	1180.2	1172.8	1170.6	1168.0	1163.6	1147.9	1130.0	1131.7	1129.5	1116.0	1108.6
5°	1259.7	1260.5	1258.3	1256.6	1249.2	1230.0	1216.9	1209.0	1192.4	1167.1	1159.2
7.5°	1235.2	1249.2	1251.8	1254.9	1258.8	1254.4	1249.6	1246.6	1233.0	1205.5	1192.9
10°	1128.2	1127.4	1143.1	1155.7	1189.8	1213.8	1222.5	1235.2	1246.6	1227.3	1213.4
12.5°	953.6	954.9	1006.4	1006.4	1050.5	1111.6	1150.9	1177.6	1226.5	1227.8	1219.5
15°	761.9	783.3	829.1	838.8	895.5	977.6	1026.9	1082.0	1176.7	1206.4	1204.6
17.5°	625.7	634.9	679.0	691.6	741.8	834.8	902.9	969.3	1102.0	1164.5	1175.8
20°	515.7	523.9	555.8	565.4	616.1	704.7	766.3	837.9	1011.7	1107.3	1127.4
22.5°	430.5	446.7	468.1	482.9	511.7	602.1	654.9	723.5	906.9	1043.1	1066.7
25°	379.0	386.4	404.8	411.7	446.7	506.5	567.2	627.4	813.9	962.8	1004.2
27.5°	344.1	346.2	359.8	365.9	386.8	442.3	486.0	541.9	719.1	880.2	928.7
30°	315.2	319.2	329.7	331.0	349.3	388.6	426.1	477.7	636.2	800.3	850.1
32.5°	293.0	295.2	303.9	306.5	318.3	349.3	379.9	417.4	559.3	716.9	774.1
35°	273.8	274.2	280.7	284.2	294.7	320.5	339.3	370.7	497.8	647.9	698.2
37.5°	251.9	255.0	259.8	262.8	272.0	293.0	310.0	334.5	441.0	582.5	629.2
40°	233.6	236.2	241.9	243.2	251.5	270.7	284.7	306.5	392.1	519.6	567.2
42.5°	215.3	217.0	222.7	225.3	234.5	249.7	262.4	279.4	353.2	463.7	510.4
45°	194.7	199.1	205.2	206.5	215.3	231.0	240.6	256.3	318.3	415.2	456.7
47.5°	177.7	179.9	185.1	187.3	197.4	211.3	221.4	234.9	288.2	371.1	411.7
50°	160.7	161.6	166.4	169.4	177.3	193.4	203.0	215.3	260.7	335.3	363.7
52.5°	144.5	146.7	151.5	153.7	158.9	175.5	184.3	196.9	234.5	298.7	327.0
55°	129.7	131.0	134.5	137.1	143.2	157.6	166.4	177.3	211.8	265.0	289.9
57.5°	115.7	117.5	120.1	122.3	127.9	140.6	149.3	160.2	190.4	234.5	253.7
60°	101.3	103.5	106.5	107.4	112.6	124.0	131.9	141.5	168.5	206.1	223.1
62.5°	90.8	91.3	93.9	95.2	98.2	107.4	115.7	124.9	148.9	178.6	192.6
65°	79.0	80.3	81.6	82.5	85.1	93.0	99.1	106.1	129.7	155.4	165.0
67.5°	66.8	68.1	70.3	71.2	73.4	78.6	83.8	90.8	110.5	132.3	141.0
70°	52.0	52.0	55.5	57.2	60.7	64.6	68.5	74.7	91.7	110.5	117.0
72.5°	42.4	42.8	43.2	43.2	46.3	52.8	55.0	58.9	72.5	90.4	96.1
75°	34.5	34.9	35.4	35.8	36.2	38.4	41.9	45.4	55.5	68.5	73.8
77.5°	27.5	27.9	28.4	28.4	29.3	30.1	31.0	32.7	39.7	49.3	53.7
80°	21.0	21.4	21.8	21.8	22.3	23.1	23.6	24.5	26.6	33.2	35.4
82.5°	15.3	15.3	15.3	15.7	16.2	16.2	17.0	17.0	18.3	20.1	21.4
85°	9.6	9.6	10.0	10.0	10.0	10.5	10.0	10.5	10.9	11.4	12.2
87.5°	4.4	3.9	4.4	4.4	4.4	4.8	4.8	4.8	4.8	5.2	5.2
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°	1064.9	1064.9	1064.9	1064.9	1064.9	1064.9	1064.9	1064.9	1064.9	1064.9	1064.9
2.5°	1088.1	1072.8	1047.0	1030.9	1024.8	1006.0	988.1	973.2	965.8	964.9	951.4
5°	1109.5	1067.5	1014.3	969.7	959.3	926.5	884.2	865.8	841.8	832.2	820.9
7.5°	1126.9	1061.4	982.8	915.6	896.0	846.6	792.5	768.5	750.1	721.3	704.3
10°	1139.2	1050.1	944.4	857.5	829.6	772.0	706.5	677.6	660.6	627.4	613.9
12.5°	1144.0	1035.7	906.0	797.3	772.8	704.3	640.1	610.4	585.1	554.9	541.9
15°	1142.2	1019.1	866.7	741.8	711.3	641.8	573.7	545.8	522.2	492.1	475.0
17.5°	1130.4	995.5	823.9	688.1	658.9	587.3	518.3	492.5	471.6	442.3	429.2
20°	1110.8	971.5	786.4	639.2	606.0	537.5	472.4	444.9	426.6	410.9	401.3
22.5°	1083.7	943.1	740.5	590.8	561.9	492.9	430.5	408.2	397.3	384.7	377.7
25°	1042.7	909.1	699.0	550.1	521.3	452.8	398.2	383.4	372.4	364.1	356.7
27.5°	998.6	876.3	657.6	509.1	482.0	416.5	372.9	361.5	351.9	341.4	334.9
30°	947.5	835.3	618.3	472.9	446.7	387.3	351.0	340.6	332.7	321.4	314.8
32.5°	887.2	790.3	581.6	437.9	413.5	362.0	331.0	319.6	313.1	302.1	295.6
35°	824.8	745.3	541.4	405.6	383.4	339.7	311.3	300.4	293.4	282.5	275.9
37.5°	763.7	697.3	505.6	377.2	357.2	317.4	290.8	281.6	275.1	263.7	255.9
40°	699.0	642.3	470.7	350.6	331.8	297.8	272.0	263.7	255.0	244.9	237.1
42.5°	631.4	593.8	438.4	327.0	309.6	278.6	253.2	244.5	237.1	225.3	221.8
45°	568.0	538.4	404.3	302.1	288.2	259.4	234.9	226.2	217.9	207.8	204.3
47.5°	511.7	484.2	373.3	280.3	266.3	240.6	216.6	207.4	201.3	193.4	188.2
50°	453.7	430.9	339.3	258.9	245.8	220.5	197.4	191.2	184.3	174.6	170.7
52.5°	399.5	382.0	311.3	238.4	226.2	203.5	179.9	173.8	167.2	158.9	153.3
55°	351.9	334.5	279.4	215.3	206.1	184.7	163.7	155.9	150.6	141.0	134.0
57.5°	303.0	294.7	248.9	196.0	187.3	165.9	147.1	141.0	134.5	124.0	117.0
60°	262.8	253.2	220.5	175.1	166.8	148.9	130.6	124.4	118.3	108.3	105.2
62.5°	224.9	217.9	193.0	155.4	148.5	131.0	114.8	109.2	103.0	96.5	94.3
65°	190.4	184.3	165.5	135.4	129.7	114.4	99.6	93.4	89.5	86.5	84.3
67.5°	158.1	154.6	140.2	116.6	112.2	98.7	85.6	80.8	78.6	75.1	73.4
70°	128.8	130.1	117.0	99.6	94.7	83.8	72.5	68.5	65.9	62.9	59.4
72.5°	105.2	104.8	96.9	81.2	77.7	69.0	60.3	57.6	54.6	48.5	44.5
75°	81.6	83.4	76.0	67.2	63.7	55.0	46.7	43.2	40.2	38.0	36.7
77.5°	62.4	63.3	59.8	51.5	48.5	41.0	34.5	32.7	31.4	30.1	29.7
80°	44.5	45.8	42.4	37.1	34.5	28.4	24.9	24.5	24.0	23.1	22.7
82.5°	28.8	30.6	28.8	23.1	21.8	18.8	17.9	17.9	17.5	17.0	16.6
85°	15.7	17.5	16.6	13.5	12.7	11.8	11.4	10.9	10.9	10.9	10.9
87.5°	6.1	8.3	7.0	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
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°	1064.9	1064.9	1064.9
2.5°	948.3	944.0	942.2
5°	817.8	804.3	801.2
7.5°	699.0	693.4	674.6
10°	611.7	594.2	586.4
12.5°	533.1	517.0	514.3
15°	470.2	458.9	455.0
17.5°	428.8	420.9	416.1
20°	398.2	392.5	389.0
22.5°	375.1	370.7	368.1
25°	354.5	348.0	345.8
27.5°	333.6	327.9	325.7
30°	313.9	309.1	306.1
32.5°	293.4	287.7	286.0
35°	273.8	270.3	268.5
37.5°	254.6	250.2	247.6
40°	236.7	234.5	233.2
42.5°	220.5	216.6	216.1
45°	203.5	199.5	198.7
47.5°	187.3	183.8	183.4
50°	170.3	165.5	162.0
52.5°	149.8	145.4	142.3
55°	131.4	126.6	124.0
57.5°	116.1	114.0	112.6
60°	104.4	103.0	102.2
62.5°	93.9	92.6	92.6
65°	84.3	83.0	81.6
67.5°	72.5	69.9	69.4
70°	58.1	54.1	53.7
72.5°	44.1	43.7	42.8
75°	36.7	35.8	35.8
77.5°	29.7	28.8	28.8
80°	22.7	22.3	22.7
82.5°	16.6	16.6	16.2
85°	10.9	10.5	10.5
87.5°	5.2	5.2	5.2
90°	0.0	0.0	0.0

(END OF REPORT)