

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: NEO-RAY

Report Number: P242172

Luminaire Tested: **S121DR-S490D935-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242172
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-13)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-S490D935-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1689.3 lumens
Efficiency: N/A
Efficacy: 89.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

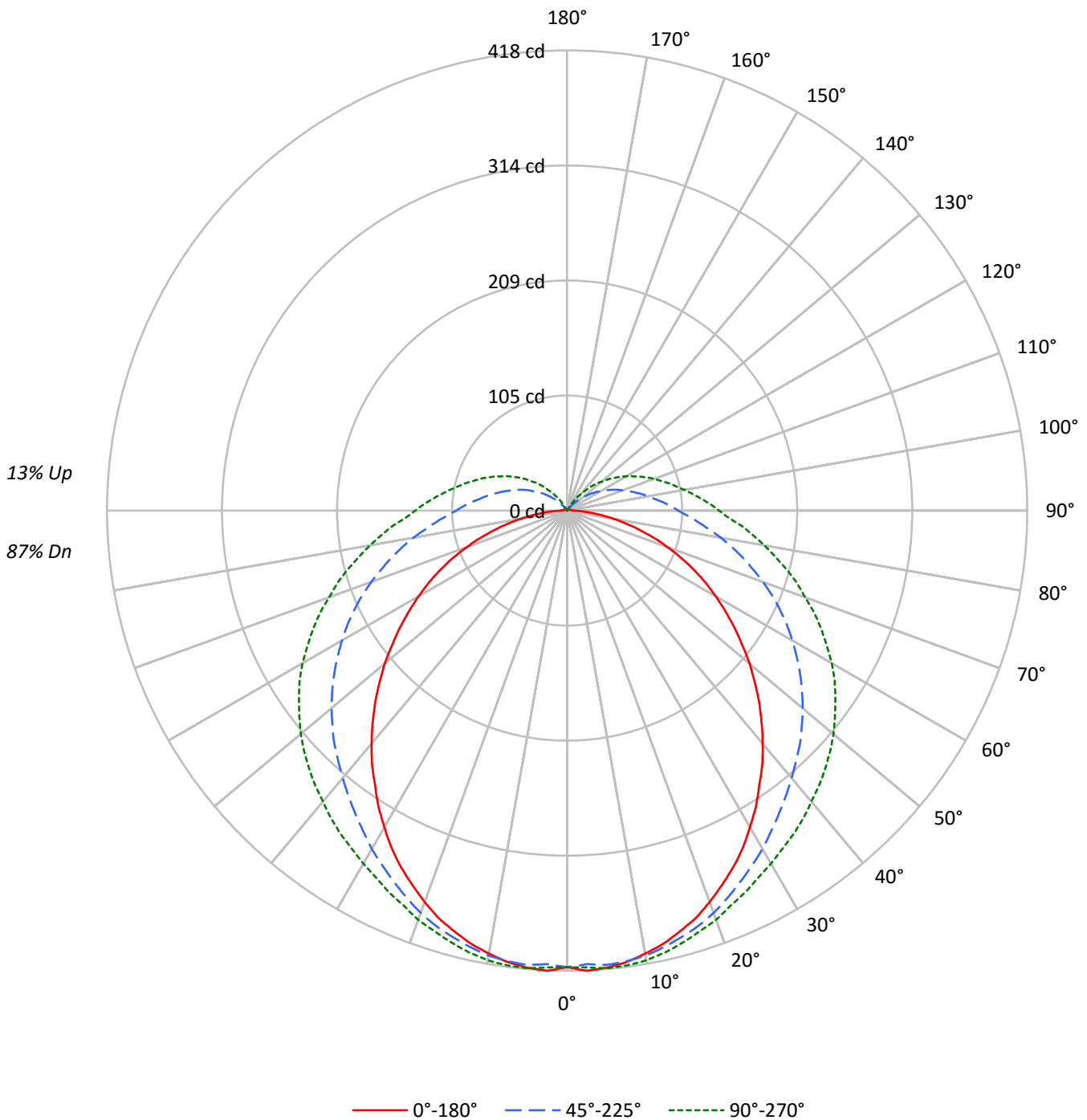
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	116	116	116	116	112	112	112	112	104	104	104	97	97	97	90	90	90	87
1	103	97	92	87	99	94	89	84	87	83	79	81	77	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	68	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	49	56	51	47	44
4	76	63	54	47	73	61	53	46	57	50	44	53	47	42	49	44	40	37
5	70	56	47	40	67	54	46	39	51	43	37	47	41	36	44	39	34	32
6	65	51	41	34	62	49	40	34	46	38	32	43	36	31	40	34	30	27
7	60	46	37	30	57	44	36	30	41	34	28	39	32	27	36	31	26	24
8	55	42	33	27	53	40	32	26	38	31	25	36	29	24	33	28	23	21
9	52	38	30	24	50	37	29	23	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	20	30	24	20	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12290	12290	12290
5°	12371	11663	11516
10°	12247	11092	10789
15°	12069	10496	10063
20°	11839	9935	9427
25°	11565	9359	8845
30°	11220	8852	8373
35°	10840	8370	7995
40°	10498	7964	7643
45°	10120	7627	7352
50°	9726	7288	7071
55°	9297	6955	6770
60°	8901	6618	6478
65°	8491	6282	6145
70°	7943	5920	5789
75°	7270	5555	5476
80°	6494	5195	5135
85°	5567	4853	4841



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.6	2.3
10°-20°	113.6	6.7
20°-30°	171.8	10.2
30°-40°	210.0	12.4
40°-50°	228.0	13.5
50°-60°	224.9	13.3
60°-70°	201.9	12.0
70°-80°	162.5	9.6
80°-90°	117.4	6.9
90°-100°	83.9	5.0
100°-110°	60.0	3.6
110°-120°	40.1	2.4
120°-130°	23.0	1.4
130°-140°	10.4	0.6
140°-150°	2.3	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	325.0	19.2
0°-40°	535.0	31.7
0°-60°	987.9	58.5
0°-90°	1469.6	87.0
90°-120°	184.0	10.9
90°-150°	219.7	13.0
90°-180°	220.0	13.0
0°-180°	1689.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	415	415	415	415	415	
5°	417	416	414	418	417	40
15°	396	401	401	407	406	112
25°	357	367	372	381	383	164
35°	304	321	336	352	359	191
45°	247	269	299	323	331	190
55°	186	218	258	288	297	166
65°	127	167	213	245	255	125
75°	69	115	165	197	206	73
85°	20	69	119	150	159	21
90°	6	52	101	129	138	4
95°	4	41	87	115	122	3
105°	2	25	64	88	96	3
115°	2	12	44	66	73	2
125°	1	2	27	46	52	1
135°	1	1	10	26	31	0
145°	0	0	0	7	10	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	414.8	414.8	414.8	414.8	414.8
2.5°	418.5	416.7	412.4	416.7	415.4
5°	416.7	416.1	414.2	417.9	417.3
7.5°	413.6	414.8	413.0	417.9	416.7
10°	408.6	411.7	410.5	415.4	414.8
12.5°	403.1	406.8	406.2	411.7	411.1
15°	395.7	401.2	401.2	406.8	406.2
17.5°	388.2	393.8	395.7	401.8	400.6
20°	378.4	385.8	388.9	394.4	395.7
22.5°	367.8	377.1	380.8	387.6	388.2
25°	357.3	366.6	372.2	380.8	382.7
27.5°	345.6	356.1	363.5	373.4	375.9
30°	332.0	345.0	354.9	366.0	370.3
32.5°	319.0	333.2	345.0	359.8	364.1
35°	304.2	320.9	335.7	352.4	358.6
37.5°	291.2	308.5	326.4	345.6	352.4
40°	276.3	294.9	317.1	338.2	345.0
42.5°	261.5	282.5	307.9	331.4	338.8
45°	246.7	268.9	299.2	323.3	331.4
47.5°	231.2	256.6	289.3	315.3	323.9
50°	216.4	243.6	279.4	306.6	315.9
52.5°	200.3	230.6	268.9	297.4	306.6
55°	185.5	217.6	258.4	288.1	297.4
57.5°	170.6	204.6	247.3	277.6	288.1
60°	155.8	191.6	236.2	267.1	277.6
62.5°	141.6	179.3	225.0	256.6	265.8
65°	126.7	166.9	213.3	244.8	254.7
67.5°	111.9	153.9	201.5	233.1	243.0
70°	97.1	140.3	189.2	221.3	230.0
72.5°	82.8	128.0	176.8	209.6	218.8
75°	68.6	115.0	165.1	196.6	206.5
77.5°	55.0	102.6	153.3	184.8	193.5
80°	42.7	90.3	141.6	173.1	181.8
82.5°	30.9	79.8	129.8	160.7	170.0
85°	20.4	69.2	119.3	149.6	158.9
87.5°	12.4	60.0	109.4	139.1	146.5
90°	5.6	51.9	100.8	129.2	137.9
92.5°	4.9	46.4	94.0	122.4	130.4
95°	4.3	41.4	87.2	115.0	122.4
97.5°	3.7	36.5	80.4	107.6	115.0
100°	3.1	32.1	74.8	100.8	108.2
102.5°	3.1	28.4	69.2	94.0	101.4
105°	2.5	24.7	63.7	88.4	95.8
107.5°	2.5	21.6	58.7	82.8	89.6
110°	2.5	18.5	53.8	77.3	84.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.9	15.5	49.5	71.7	78.5
115°	1.9	12.4	44.5	66.1	72.9
117.5°	1.9	9.3	40.2	61.2	67.4
120°	1.2	6.8	35.2	56.3	62.4
122.5°	1.2	4.3	31.5	50.7	56.9
125°	1.2	1.9	27.2	45.7	51.9
127.5°	1.2	0.6	22.9	40.8	46.4
130°	0.6	0.6	19.2	35.9	40.8
132.5°	0.6	0.6	14.8	30.9	36.5
135°	0.6	0.6	10.5	26.0	30.9
137.5°	0.6	0.0	6.8	21.0	25.3
140°	0.6	0.0	3.7	16.7	20.4
142.5°	0.6	0.0	0.6	11.7	16.1
145°	0.0	0.0	0.0	7.4	10.5
147.5°	0.0	0.0	0.0	3.1	6.2
150°	0.0	0.0	0.0	0.0	1.9
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)