

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: P231720

Luminaire Tested: **S121-RDR-2-30-X-0048-1-U-DD-1-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P231720  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33908)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S121-RDR-2-30-X-0048-1-U-DD-1-W  
Description: DEFINE 1 LED LINEAR REGRESSED DIRECT RECESSED LED LUMINAIRE WITH FLUSH LENS.  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2921.4 lumens  
Efficiency: N/A  
Efficacy: 68.6 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 0.93 / 1.1  
Luminous Opening: Rectangular (W 0.1' x L: 3.92' x H: 0')  
CIE Type: Direct

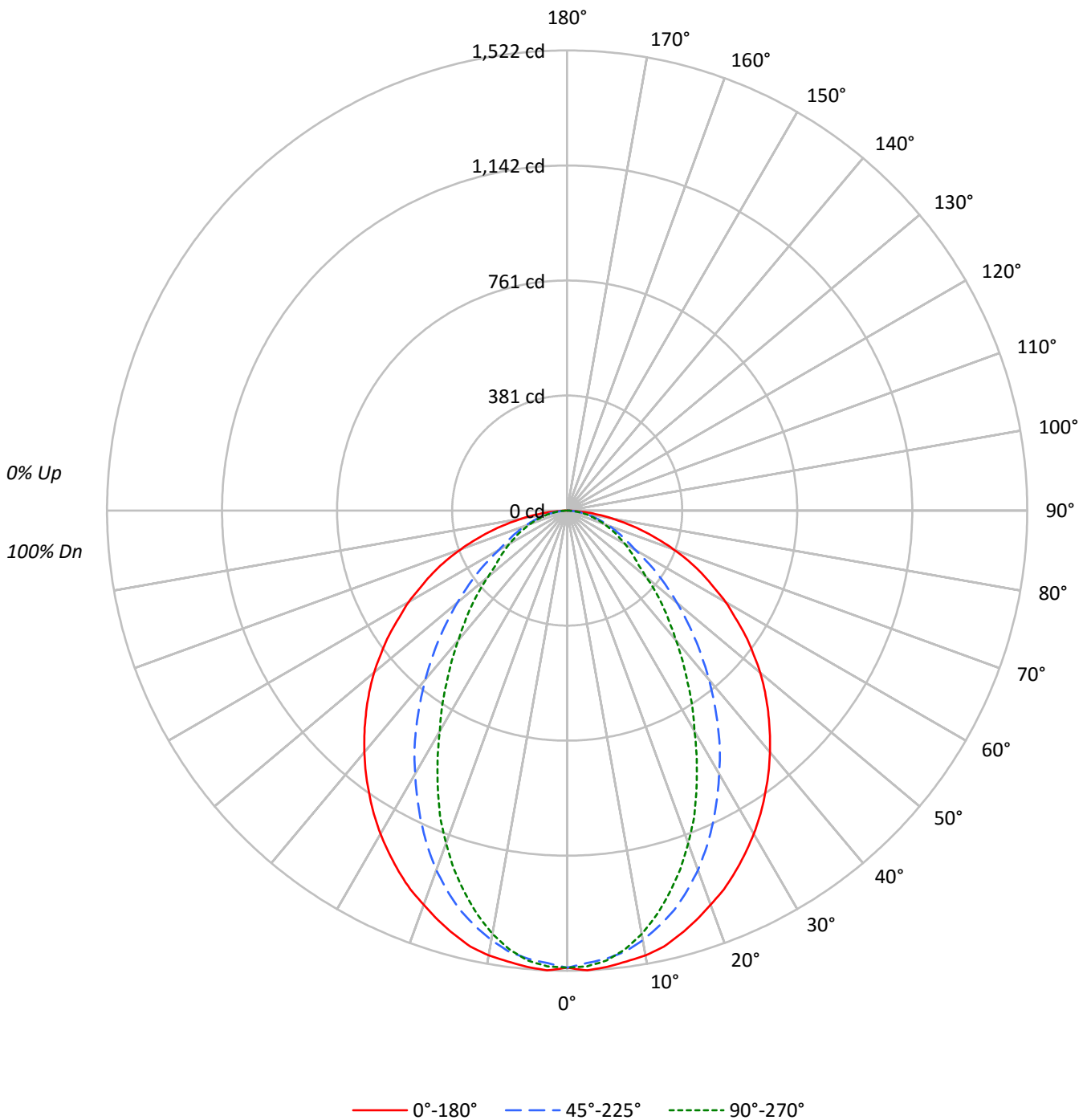
Input Watts (W): 42.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88					86				
2	101	94	88	83	99	92	86	82	89	84	80	85	81	78	82	79	76					74				
3	93	84	76	70	91	82	75	70	79	73	69	77	72	67	74	70	66					64				
4	86	75	67	61	84	74	66	61	71	65	60	69	64	59	67	62	58					56				
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52					50				
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46					44				
7	69	57	48	43	67	56	48	42	54	47	42	53	47	42	52	46	42					40				
8	65	52	44	39	63	51	44	38	50	43	38	49	43	38	48	42	38					36				
9	61	48	40	35	59	47	40	35	46	40	35	45	39	35	44	39	35					33				
10	57	45	37	32	56	44	37	32	43	37	32	42	36	32	41	36	32					30				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	42263	42263	42263
5°	42509	41754	41922
10°	42407	40962	40366
15°	41977	39595	37864
20°	41280	37630	34824
25°	40629	35182	31212
30°	39862	32470	27204
35°	38976	29679	23703
40°	38072	26657	20430
45°	37165	23612	17752
50°	36261	20638	14844
55°	35090	17728	13277
60°	33896	14560	12301
65°	32474	13171	11484
70°	30588	12114	10643
75°	27966	10996	9700
80°	24343	9644	8919
85°	19214	8148	7667



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	141.6	4.8
10°-20°	386.4	13.2
20°-30°	530.3	18.2
30°-40°	558.4	19.1
40°-50°	497.4	17.0
50°-60°	382.3	13.1
60°-70°	256.0	8.8
70°-80°	133.8	4.6
80°-90°	35.2	1.2
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°	1058.3	36.2
0°-40°	1616.7	55.3
0°-60°	2496.4	85.5
0°-90°	2921.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2921.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1512	1512	1512	1512	1512	
5°	1515	1506	1488	1498	1494	144
15°	1450	1431	1368	1334	1308	409
25°	1317	1262	1140	1054	1012	607
35°	1142	1048	870	739	694	715
45°	940	807	597	480	449	725
55°	720	561	364	281	272	643
65°	491	322	199	178	174	485
75°	259	132	102	93	90	274
85°	60	28	25	24	24	71
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1511.7	1511.7	1511.7	1511.7	1511.7
2.5°	1522.2	1513.2	1498.2	1511.7	1508.7
5°	1514.7	1505.7	1487.8	1498.2	1493.8
7.5°	1504.2	1492.3	1471.3	1474.3	1463.8
10°	1493.8	1477.3	1442.9	1435.4	1421.9
12.5°	1477.3	1459.3	1406.9	1386.0	1369.5
15°	1450.3	1430.9	1368.0	1333.6	1308.2
17.5°	1420.4	1390.5	1318.6	1270.7	1243.8
20°	1387.5	1351.6	1264.8	1203.4	1170.5
22.5°	1356.1	1308.2	1204.9	1131.5	1097.1
25°	1317.1	1261.8	1140.5	1053.7	1011.8
27.5°	1276.7	1209.4	1073.2	975.9	928.0
30°	1234.8	1157.0	1005.8	893.6	842.7
32.5°	1189.9	1101.6	940.0	815.7	770.8
35°	1142.0	1047.7	869.6	739.4	694.5
37.5°	1094.1	986.4	797.8	667.5	627.1
40°	1043.2	928.0	730.4	600.2	559.8
42.5°	992.3	866.6	661.6	538.8	501.4
45°	940.0	806.7	597.2	480.5	449.0
47.5°	887.6	745.4	534.3	425.1	395.1
50°	833.7	684.0	474.5	372.7	341.3
52.5°	775.3	622.6	417.6	320.3	297.9
55°	719.9	561.3	363.7	281.4	272.4
57.5°	658.6	499.9	311.3	254.4	245.5
60°	606.2	438.5	260.4	229.0	220.0
62.5°	544.8	378.7	227.5	203.6	196.1
65°	490.9	321.8	199.1	178.1	173.6
67.5°	434.1	266.4	172.1	155.7	149.7
70°	374.2	214.0	148.2	133.2	130.2
72.5°	315.8	166.1	122.7	112.3	110.8
75°	258.9	131.7	101.8	92.8	89.8
77.5°	203.6	100.3	80.8	74.8	73.3
80°	151.2	73.3	59.9	56.9	55.4
82.5°	103.3	49.4	41.9	38.9	38.9
85°	59.9	28.4	25.4	23.9	23.9
87.5°	22.5	12.0	10.5	10.5	10.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)