

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: P243018

Luminaire Tested: **S121DR-H490D835-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243018
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-52)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-H490D835-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1845.5 lumens
Efficiency: N/A
Efficacy: 107.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.43
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

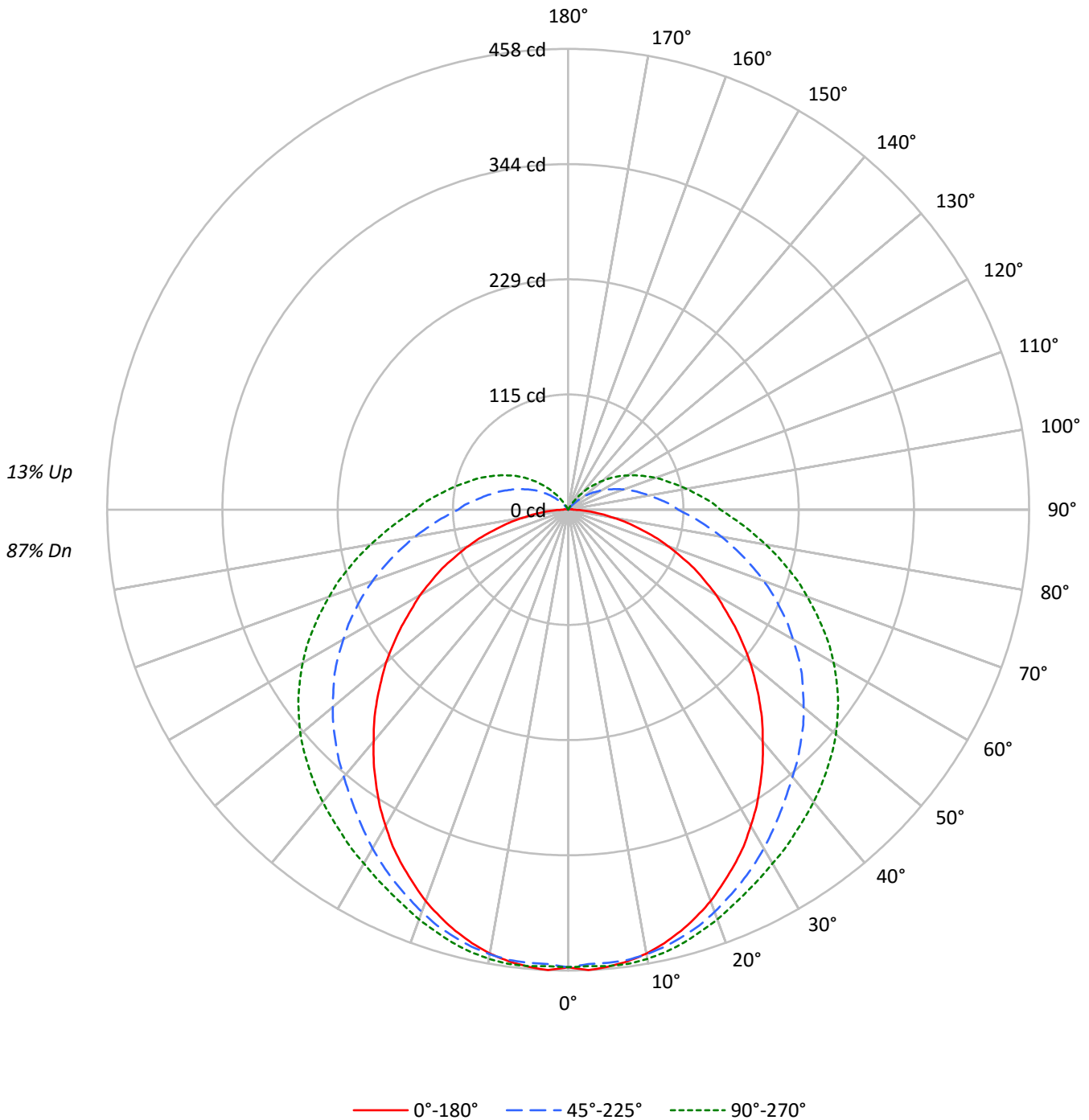
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	78	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	69	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	50	56	51	47	44
4	76	64	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	29	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	24	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	21	30	24	20	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13473	13473	13473
5°	13537	12727	12565
10°	13428	12124	11790
15°	13215	11493	11032
20°	12953	10865	10323
25°	12624	10259	9691
30°	12257	9695	9180
35°	11856	9158	8755
40°	11425	8707	8403
45°	11022	8328	8075
50°	10607	7964	7774
55°	10124	7625	7450
60°	9712	7229	7110
65°	9249	6854	6738
70°	8613	6468	6360
75°	7842	6056	5993
80°	6889	5676	5629
85°	6004	5316	5301



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.3	2.3
10°-20°	124.3	6.7
20°-30°	188.0	10.2
30°-40°	229.7	12.4
40°-50°	249.4	13.5
50°-60°	246.1	13.3
60°-70°	220.5	11.9
70°-80°	177.4	9.6
80°-90°	128.2	6.9
90°-100°	91.8	5.0
100°-110°	65.5	3.6
110°-120°	43.4	2.4
120°-130°	24.7	1.3
130°-140°	11.0	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°	355.5	19.3
0°-40°	585.2	31.7
0°-60°	1080.7	58.6
0°-90°	1606.7	87.1
90°-120°	200.7	10.9
90°-150°	238.8	12.9
90°-180°	239.0	13.0
0°-180°	1845.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	455	455	455	455	455	
5°	456	455	452	457	455	43
15°	433	438	439	445	445	122
25°	390	400	408	417	419	180
35°	333	350	367	387	393	208
45°	269	294	327	355	364	207
55°	202	236	283	316	327	181
65°	138	181	233	269	279	136
75°	74	125	180	215	226	79
85°	22	75	131	164	174	23
90°	5	56	109	142	151	4
95°	4	45	95	126	135	3
105°	2	27	70	97	105	2
115°	1	13	48	73	80	1
125°	1	1	29	50	57	0
135°	0	0	11	28	33	0
145°	0	0	0	7	12	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°	454.7	454.7	454.7	454.7	454.7
2.5°	458.0	455.3	452.0	455.3	454.0
5°	456.0	454.7	452.0	456.7	455.3
7.5°	452.7	452.7	451.3	456.0	455.3
10°	448.0	449.3	448.7	454.0	453.3
12.5°	441.3	444.0	444.7	450.7	450.0
15°	433.3	438.0	439.3	445.3	445.3
17.5°	424.0	430.0	433.3	439.3	439.3
20°	414.0	420.7	425.3	432.7	433.3
22.5°	402.0	411.3	416.7	425.3	426.0
25°	390.0	400.0	408.0	417.3	419.3
27.5°	377.3	388.7	398.7	409.3	412.7
30°	362.7	375.3	388.7	401.3	406.0
32.5°	348.7	363.3	378.0	394.0	400.0
35°	332.7	350.0	367.3	386.7	392.7
37.5°	317.3	336.0	356.7	378.7	386.0
40°	300.7	322.0	346.7	371.3	379.3
42.5°	285.3	307.3	337.3	362.7	372.0
45°	268.7	294.0	326.7	354.7	364.0
47.5°	252.0	279.3	316.7	345.3	356.0
50°	236.0	264.7	305.3	336.7	347.3
52.5°	218.7	251.3	294.0	326.0	337.3
55°	202.0	236.0	283.3	316.0	327.3
57.5°	184.7	223.3	270.7	305.3	316.0
60°	170.0	208.7	258.0	293.3	304.7
62.5°	153.3	194.7	246.0	280.7	292.7
65°	138.0	180.7	232.7	268.7	279.3
67.5°	120.7	166.7	220.0	255.3	266.0
70°	105.3	152.7	206.7	242.0	252.7
72.5°	90.0	139.3	193.3	229.3	240.0
75°	74.0	124.7	180.0	215.3	226.0
77.5°	60.0	111.3	166.7	202.0	212.7
80°	45.3	98.0	154.7	189.3	199.3
82.5°	33.3	86.0	142.0	176.7	186.0
85°	22.0	74.7	130.7	164.0	174.0
87.5°	12.7	64.7	119.3	152.7	162.0
90°	5.3	56.0	109.3	142.0	151.3
92.5°	4.0	50.7	103.3	134.7	144.0
95°	4.0	44.7	95.3	126.0	135.3
97.5°	3.3	39.3	88.0	118.0	126.7
100°	2.7	34.7	82.0	110.7	119.3
102.5°	2.7	30.7	75.3	103.3	112.0
105°	2.0	26.7	70.0	96.7	104.7
107.5°	2.0	22.7	64.0	90.7	98.7
110°	1.3	19.3	58.7	84.7	92.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	16.0	53.3	78.7	86.0
115°	1.3	12.7	48.0	72.7	80.0
117.5°	0.7	9.3	43.3	66.7	74.0
120°	0.7	6.7	38.7	60.7	68.0
122.5°	0.7	3.3	33.3	55.3	62.7
125°	0.7	1.3	29.3	50.0	56.7
127.5°	0.0	0.0	24.7	44.0	50.7
130°	0.0	0.0	20.0	38.7	44.7
132.5°	0.0	0.0	16.0	33.3	38.7
135°	0.0	0.0	11.3	28.0	33.3
137.5°	0.0	0.0	7.3	22.7	28.0
140°	0.0	0.0	3.3	17.3	22.0
142.5°	0.0	0.0	0.7	12.7	16.7
145°	0.0	0.0	0.0	7.3	12.0
147.5°	0.0	0.0	0.0	2.7	6.7
150°	0.0	0.0	0.0	0.0	2.0
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)