

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: P930424

Luminaire Tested: DFN2DS-PN2F0-020DS850-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930424
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-PN2F0-020DS850-RLL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

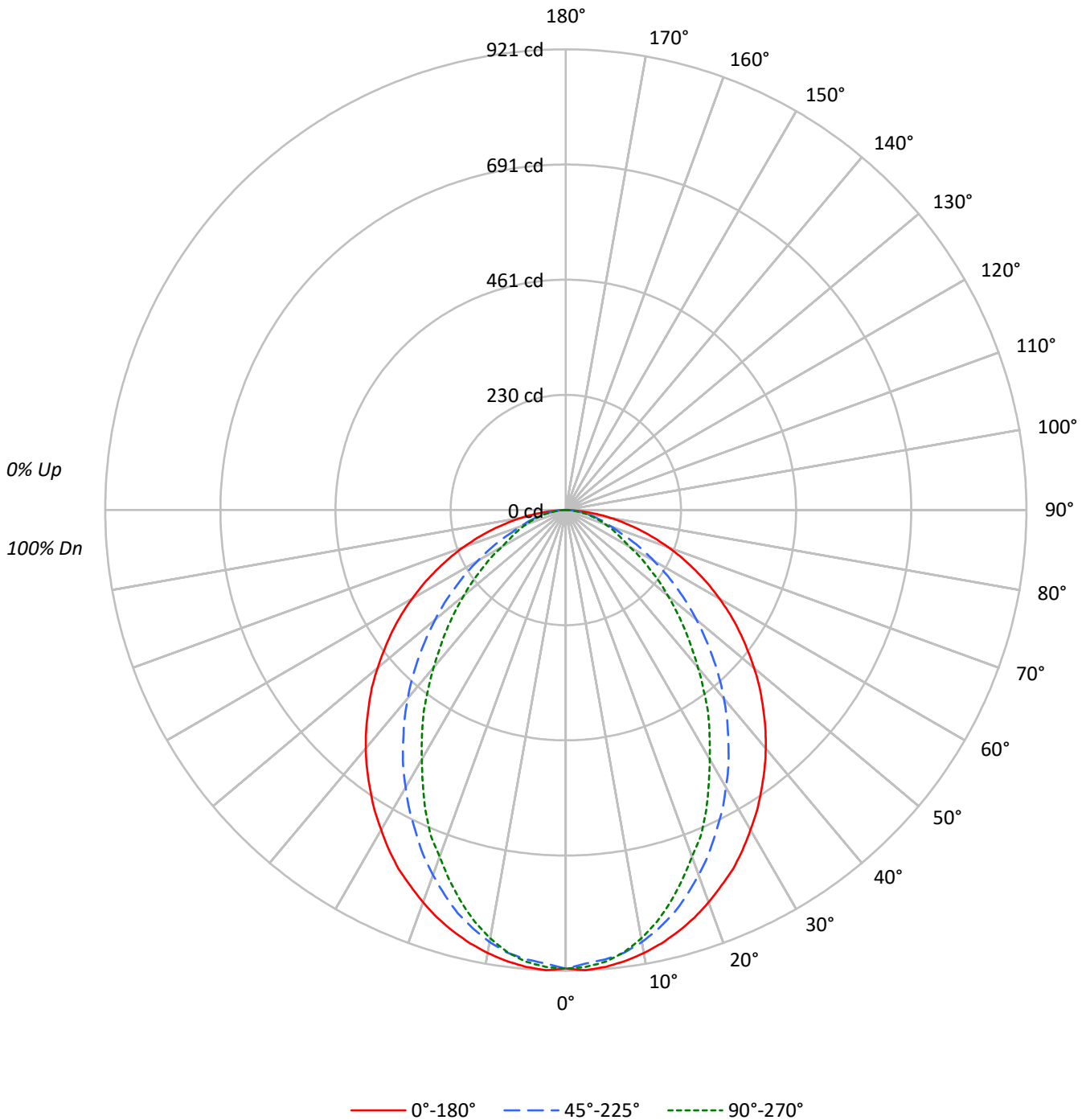
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1885.3 lumens
Efficiency: N/A
Efficacy: 97.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.29' x L: 2.17' x H: 0')
CIE Type: Direct

Input Watts (W): 19.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	88	88	88	86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	76	76	76	74
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	66	66	66	64
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	57	57	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	51	51	51	49
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	45	45	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	41	41	41	39
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	37	37	37	35
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	34	34	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	31	31	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1985	1985	1985
5°	1993	1960	1971
10°	1978	1929	1912
15°	1955	1871	1818
20°	1923	1790	1700
25°	1892	1697	1586
30°	1847	1602	1440
35°	1803	1498	1312
40°	1759	1391	1163
45°	1708	1271	1029
50°	1655	1149	898
55°	1601	1018	771
60°	1538	881	640
65°	1467	740	583
70°	1381	609	536
75°	1277	555	500
80°	1128	496	455
85°	885	390	390

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1708 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.9	4.6
10°-20°	235.8	12.5
20°-30°	331.1	17.6
30°-40°	361.0	19.1
40°-50°	331.8	17.6
50°-60°	260.6	13.8
60°-70°	169.6	9.0
70°-80°	87.3	4.6
80°-90°	22.3	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°	652.9	34.6
0°-40°	1013.8	53.8
0°-60°	1606.2	85.2
0°-90°	1885.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1885.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	917	917	917	917	917	
5°	917	913	902	909	907	87
15°	872	863	834	819	811	246
25°	792	765	710	676	664	364
35°	682	640	567	514	496	427
45°	558	502	415	356	336	431
55°	424	359	270	220	204	379
65°	286	219	144	116	114	284
75°	153	94	66	61	60	161
85°	36	18	16	16	16	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	916.7	916.7	916.7	916.7	916.7
2.5°	920.8	916.7	907.5	915.9	914.3
5°	916.7	912.6	901.7	909.3	906.7
7.5°	909.3	904.3	892.6	896.0	891.7
10°	899.3	893.4	876.9	874.3	869.5
12.5°	886.9	879.3	856.9	852.0	842.8
15°	871.9	862.7	834.5	818.8	810.6
17.5°	854.5	841.2	806.4	788.1	774.9
20°	834.5	817.9	776.5	755.8	737.5
22.5°	813.0	793.9	745.8	717.6	705.2
25°	791.5	764.9	710.1	676.2	663.6
27.5°	765.8	737.5	676.9	637.9	618.8
30°	738.4	706.8	640.4	598.2	575.7
32.5°	711.8	673.6	605.6	555.8	535.1
35°	681.9	639.7	566.7	514.4	496.1
37.5°	652.9	607.2	530.1	472.9	452.1
40°	622.1	572.5	492.0	433.1	411.4
42.5°	590.7	537.6	453.8	392.4	371.7
45°	557.5	501.8	414.9	355.9	335.9
47.5°	526.0	467.1	377.5	318.5	300.3
50°	491.2	432.3	341.0	283.7	266.4
52.5°	457.0	394.8	306.1	251.4	235.7
55°	423.9	359.2	269.6	219.9	204.1
57.5°	389.9	323.5	237.3	190.9	177.6
60°	355.1	288.7	203.3	161.0	147.7
62.5°	321.1	254.7	174.2	134.4	127.8
65°	286.2	219.0	144.4	116.2	113.7
67.5°	253.1	185.8	116.2	102.0	99.6
70°	218.1	153.5	96.2	87.9	84.6
72.5°	185.0	123.5	80.4	73.9	72.2
75°	152.6	94.5	66.3	60.6	59.8
77.5°	120.3	67.2	52.2	48.9	47.2
80°	90.4	48.1	39.8	36.5	36.5
82.5°	63.0	32.4	27.4	25.7	25.7
85°	35.6	18.2	15.7	15.7	15.7
87.5°	13.3	6.7	6.7	5.8	5.8
90°	0.0	0.0	0.0	0.0	0.0



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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	13.62	15.14	13.98	15.45	15.77	9.58	11.10	9.95	11.42	11.73
	3H	15.38	16.75	15.76	17.08	17.44	10.85	12.21	11.22	12.54	12.90
	4H	16.05	17.33	16.45	17.68	18.06	11.35	12.63	11.75	12.98	13.36
	6H	16.54	17.72	16.95	18.09	18.48	11.73	12.91	12.14	13.28	13.67
	8H	16.70	17.83	17.13	18.22	18.62	11.85	12.98	12.28	13.37	13.77
	12H	16.81	17.88	17.24	18.27	18.70	11.93	13.01	12.36	13.39	13.82
4H	2H	13.72	15.00	14.12	15.35	15.73	10.28	11.56	10.68	11.91	12.28
	3H	15.65	16.72	16.06	17.12	17.52	11.72	12.78	12.13	13.18	13.58
	4H	16.40	17.36	16.84	17.78	18.21	12.32	13.27	12.75	13.69	14.13
	6H	17.00	17.83	17.45	18.27	18.73	12.81	13.64	13.26	14.08	14.54
	8H	17.21	17.99	17.67	18.43	18.90	12.97	13.74	13.43	14.19	14.66
	12H	17.36	18.06	17.85	18.54	19.01	13.08	13.78	13.57	14.26	14.73
8H	4H	16.43	17.20	16.89	17.65	18.12	12.67	13.45	13.13	13.89	14.36
	6H	17.07	17.71	17.56	18.20	18.68	13.26	13.90	13.75	14.39	14.87
	8H	17.32	17.89	17.83	18.40	18.89	13.48	14.05	13.99	14.56	15.05
	12H	17.52	18.03	18.03	18.52	19.09	13.66	14.17	14.17	14.66	15.22
12H	4H	16.41	17.11	16.89	17.58	18.06	12.71	13.41	13.20	13.89	14.36
	6H	17.05	17.62	17.56	18.13	18.62	13.32	13.90	13.83	14.41	14.90
	8H	17.33	17.84	17.84	18.33	18.90	13.59	14.10	14.10	14.60	15.16