

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: P929791

Luminaire Tested: DFN2DS-4P2F0-020DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929791
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P2F0-020DS840-FLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

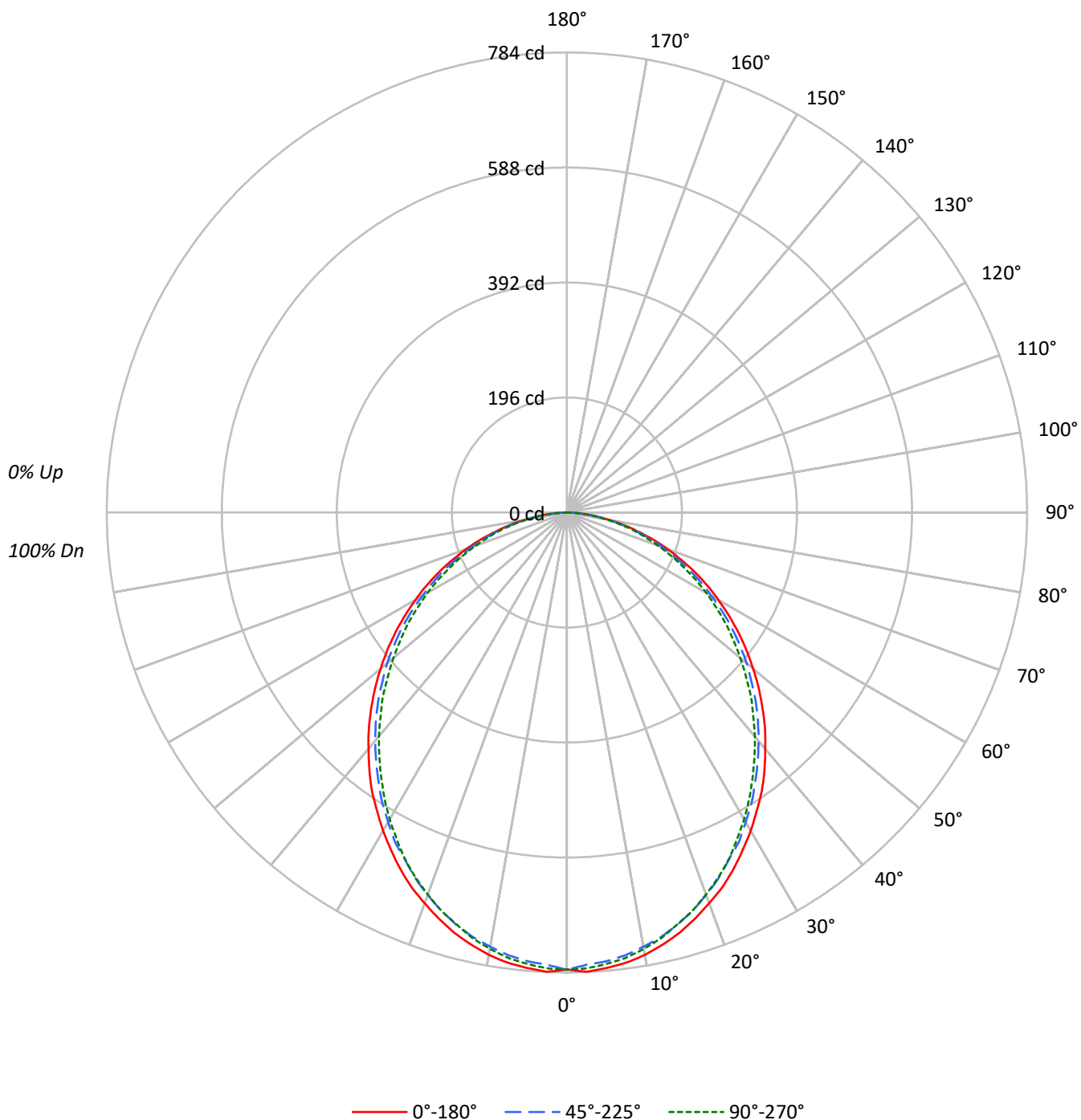
Lumens per Lamp: N/A
Luminaire Lumens: 1982.0 lumens
Efficiency: N/A
Efficacy: 102.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 19.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1951	1951	1951
5°	1958	1930	1941
10°	1947	1911	1920
15°	1922	1885	1884
20°	1888	1848	1846
25°	1854	1803	1803
30°	1811	1761	1746
35°	1770	1711	1685
40°	1719	1660	1628
45°	1669	1610	1570
50°	1614	1558	1503
55°	1557	1497	1442
60°	1493	1426	1373
65°	1424	1354	1292
70°	1338	1267	1207
75°	1217	1166	1138
80°	1081	1048	994
85°	879	839	753

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1669 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.3	3.7
10°-20°	206.3	10.4
20°-30°	303.2	15.3
30°-40°	352.1	17.8
40°-50°	351.7	17.7
50°-60°	306.6	15.5
60°-70°	226.7	11.4
70°-80°	128.3	6.5
80°-90°	33.9	1.7
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°	582.8	29.4
0°-40°	934.9	47.2
0°-60°	1593.2	80.4
0°-90°	1982.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1982.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	779	779	779	779	779	
5°	779	776	768	774	772	74
15°	742	737	727	730	727	209
25°	671	665	652	654	652	309
35°	579	572	560	555	551	362
45°	471	466	455	446	443	364
55°	357	352	343	334	330	319
65°	240	236	228	222	218	238
75°	126	124	120	116	118	134
85°	31	30	29	27	26	36
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	779.0	779.0	779.0	779.0	779.0
2.5°	783.5	779.8	771.5	779.0	777.6
5°	779.0	776.1	767.8	773.8	772.3
7.5°	773.8	769.3	761.1	767.1	765.6
10°	765.6	760.4	751.4	757.3	755.1
12.5°	754.3	749.8	740.8	744.5	743.0
15°	741.5	737.1	727.3	730.3	726.6
17.5°	725.8	721.4	711.6	715.3	711.6
20°	708.6	704.1	693.6	695.9	692.9
22.5°	691.4	684.7	674.9	674.9	673.4
25°	671.2	665.2	652.5	653.9	652.5
27.5°	648.6	643.4	633.7	631.5	627.7
30°	626.2	620.2	609.0	606.8	603.7
32.5°	602.2	597.8	585.8	581.3	578.3
35°	579.1	571.6	559.6	555.1	551.3
37.5°	552.9	546.0	534.0	528.8	525.0
40°	525.8	519.8	507.8	501.2	498.1
42.5°	499.6	493.6	481.7	474.2	469.7
45°	471.2	466.0	454.7	446.4	443.4
47.5°	443.4	438.2	426.2	417.9	413.5
50°	414.2	410.5	400.0	389.5	385.8
52.5°	385.8	380.5	370.8	362.6	357.4
55°	356.6	352.1	343.0	334.1	330.3
57.5°	327.3	323.6	313.8	304.9	301.8
60°	298.1	295.2	284.7	276.4	274.2
62.5°	269.7	264.4	257.0	249.4	246.4
65°	240.4	235.9	228.5	221.7	218.0
67.5°	210.5	206.7	200.0	194.8	191.8
70°	182.8	179.8	173.0	167.8	164.9
72.5°	154.4	151.4	147.5	142.3	140.1
75°	125.8	124.4	120.5	116.1	117.6
77.5°	100.4	97.4	95.8	93.6	91.4
80°	75.0	74.2	72.7	70.4	68.9
82.5°	51.0	51.0	50.3	47.2	47.2
85°	30.6	29.9	29.2	26.9	26.2
87.5°	13.5	12.0	10.5	8.3	7.5
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	13.60	15.21	13.97	15.53	15.84	13.16	14.77	13.53	15.08	15.40
	3H	15.35	16.81	15.73	17.13	17.50	14.86	16.32	15.24	16.64	17.01
	4H	16.00	17.37	16.40	17.72	18.09	15.51	16.88	15.90	17.22	17.60
	6H	16.47	17.74	16.88	18.10	18.49	15.97	17.24	16.38	17.60	17.99
	8H	16.61	17.82	17.04	18.21	18.61	16.11	17.32	16.53	17.71	18.11
	12H	16.70	17.86	17.13	18.25	18.67	16.19	17.35	16.62	17.73	18.16
4H	2H	14.16	15.53	14.56	15.88	16.26	13.81	15.18	14.21	15.53	15.90
	3H	16.14	17.29	16.55	17.68	18.08	15.73	16.88	16.14	17.28	17.68
	4H	16.92	17.95	17.35	18.37	18.80	16.49	17.53	16.92	17.94	18.38
	6H	17.51	18.42	17.97	18.86	19.32	17.08	17.98	17.53	18.43	18.88
	8H	17.70	18.55	18.16	18.99	19.46	17.26	18.11	17.72	18.55	19.02
	12H	17.83	18.59	18.32	19.07	19.54	17.38	18.14	17.86	18.62	19.09
8H	4H	17.19	18.04	17.65	18.48	18.94	16.82	17.66	17.28	18.10	18.57
	6H	17.90	18.61	18.40	19.10	19.57	17.52	18.23	18.02	18.71	19.19
	8H	18.16	18.79	18.67	19.30	19.79	17.77	18.40	18.28	18.91	19.39
	12H	18.36	18.92	18.87	19.41	19.97	17.95	18.51	18.46	19.00	19.56
12H	4H	17.22	17.98	17.70	18.45	18.92	16.85	17.61	17.33	18.09	18.56
	6H	17.95	18.58	18.46	19.09	19.57	17.58	18.21	18.09	18.72	19.21
	8H	18.26	18.82	18.77	19.31	19.87	17.89	18.44	18.39	18.93	19.49