

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: P930421

Luminaire Tested: DFN2DS-PN2F0-020DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930421
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-PN2F0-020DS840-FLL
Description: 2 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

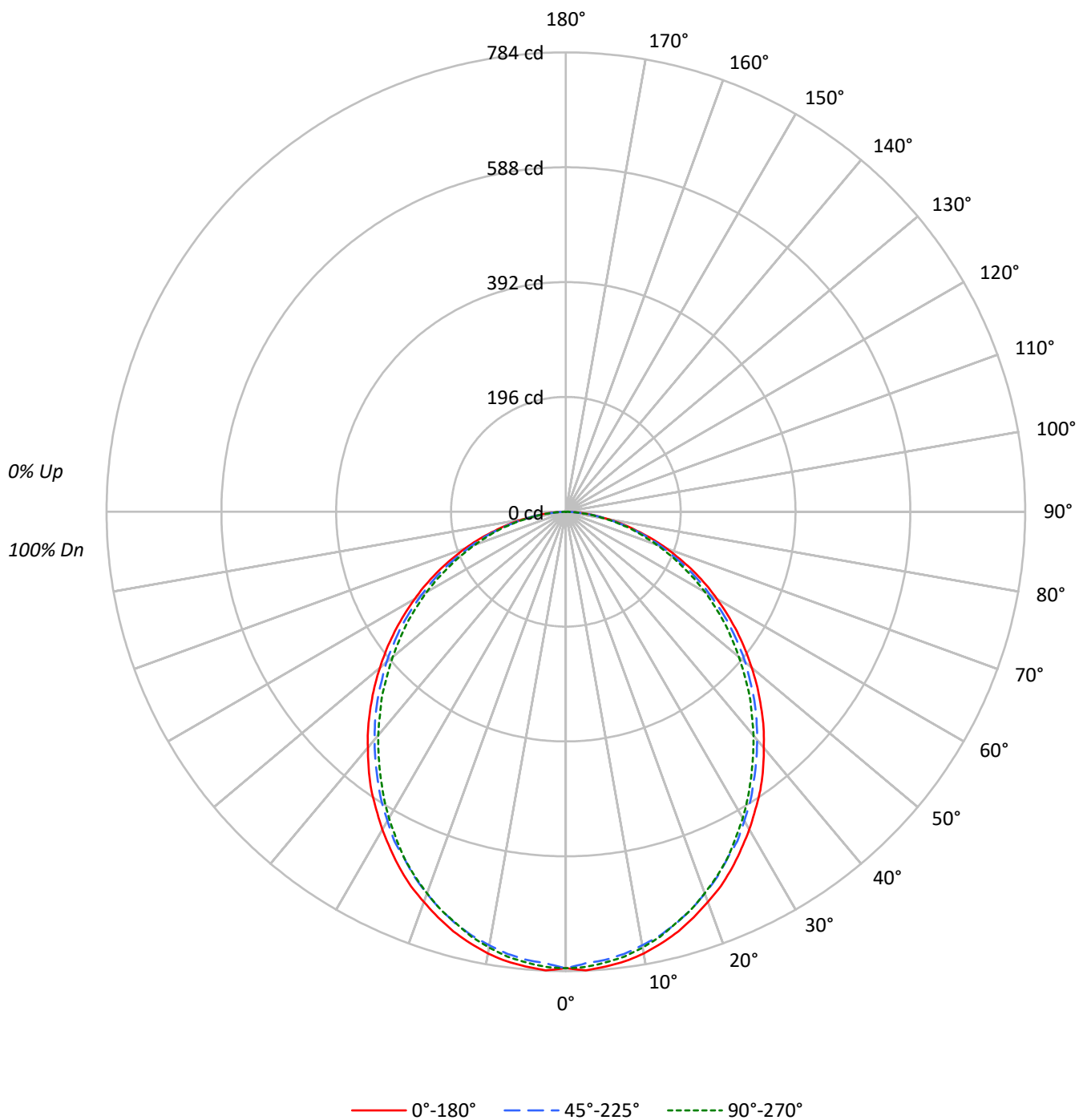
Lumens per Lamp: N/A
Luminaire Lumens: 1982.0 lumens
Efficiency: N/A
Efficacy: 102.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.29' x L: 2.17' x H: 0')
CIE Type: Direct

Input Watts (W): 19.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930421

CATALOG NUMBER: DFN2DS-PN2F0-020DS840-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P930421

CATALOG NUMBER: DFN2DS-PN2F0-020DS840-FLL

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	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37	32	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1687	1687	1687
5°	1694	1669	1679
10°	1684	1653	1661
15°	1663	1631	1629
20°	1633	1599	1597
25°	1604	1559	1559
30°	1566	1523	1510
35°	1531	1480	1458
40°	1487	1436	1408
45°	1443	1393	1358
50°	1396	1348	1300
55°	1347	1295	1247
60°	1291	1233	1188
65°	1232	1171	1117
70°	1158	1096	1044
75°	1053	1008	984
80°	935	907	859
85°	760	726	651

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1443 cd/sqm

TEST NUMBER: P930421

CATALOG NUMBER: DFN2DS-PN2F0-020DS840-FLL

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	

TEST NUMBER: P930421

CATALOG NUMBER: DFN2DS-PN2F0-020DS840-FLL

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

TEST NUMBER: P930421

CATALOG NUMBER: DFN2DS-PN2F0-020DS840-FLL

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	13.10	14.71	13.46	15.02	15.34	12.66	14.27	13.02	14.58	14.90
	3H	14.85	16.30	15.23	16.63	16.99	14.36	15.81	14.74	16.14	16.50
	4H	15.50	16.87	15.89	17.21	17.59	15.00	16.37	15.40	16.72	17.09
	6H	15.97	17.23	16.38	17.60	17.99	15.46	16.73	15.88	17.10	17.49
	8H	16.11	17.32	16.53	17.71	18.11	15.61	16.82	16.03	17.21	17.60
	12H	16.20	17.36	16.63	17.74	18.17	15.69	16.85	16.12	17.23	17.66
4H	2H	13.66	15.03	14.06	15.38	15.75	13.31	14.68	13.71	15.02	15.40
	3H	15.64	16.78	16.05	17.18	17.58	15.23	16.38	15.64	16.77	17.17
	4H	16.41	17.45	16.84	17.86	18.30	15.99	17.02	16.42	17.44	17.87
	6H	17.01	17.91	17.46	18.35	18.81	16.58	17.48	17.03	17.92	18.38
	8H	17.20	18.05	17.66	18.49	18.95	16.76	17.61	17.22	18.05	18.51
	12H	17.33	18.09	17.81	18.57	19.04	16.88	17.64	17.36	18.11	18.58
8H	4H	16.69	17.53	17.15	17.97	18.44	16.31	17.16	16.77	17.60	18.07
	6H	17.40	18.10	17.89	18.59	19.07	17.02	17.72	17.51	18.21	18.68
	8H	17.66	18.29	18.17	18.80	19.28	17.27	17.90	17.78	18.40	18.89
	12H	17.86	18.42	18.37	18.91	19.47	17.45	18.00	17.95	18.49	19.05
12H	4H	16.71	17.47	17.19	17.95	18.42	16.35	17.11	16.83	17.58	18.05
	6H	17.45	18.08	17.96	18.58	19.07	17.08	17.71	17.59	18.22	18.70
	8H	17.76	18.32	18.27	18.81	19.37	17.38	17.94	17.89	18.43	18.99