

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: P929803

Luminaire Tested: DFN2DS-4P2F0-020DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929803
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-4P2F0-020DS950-FLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

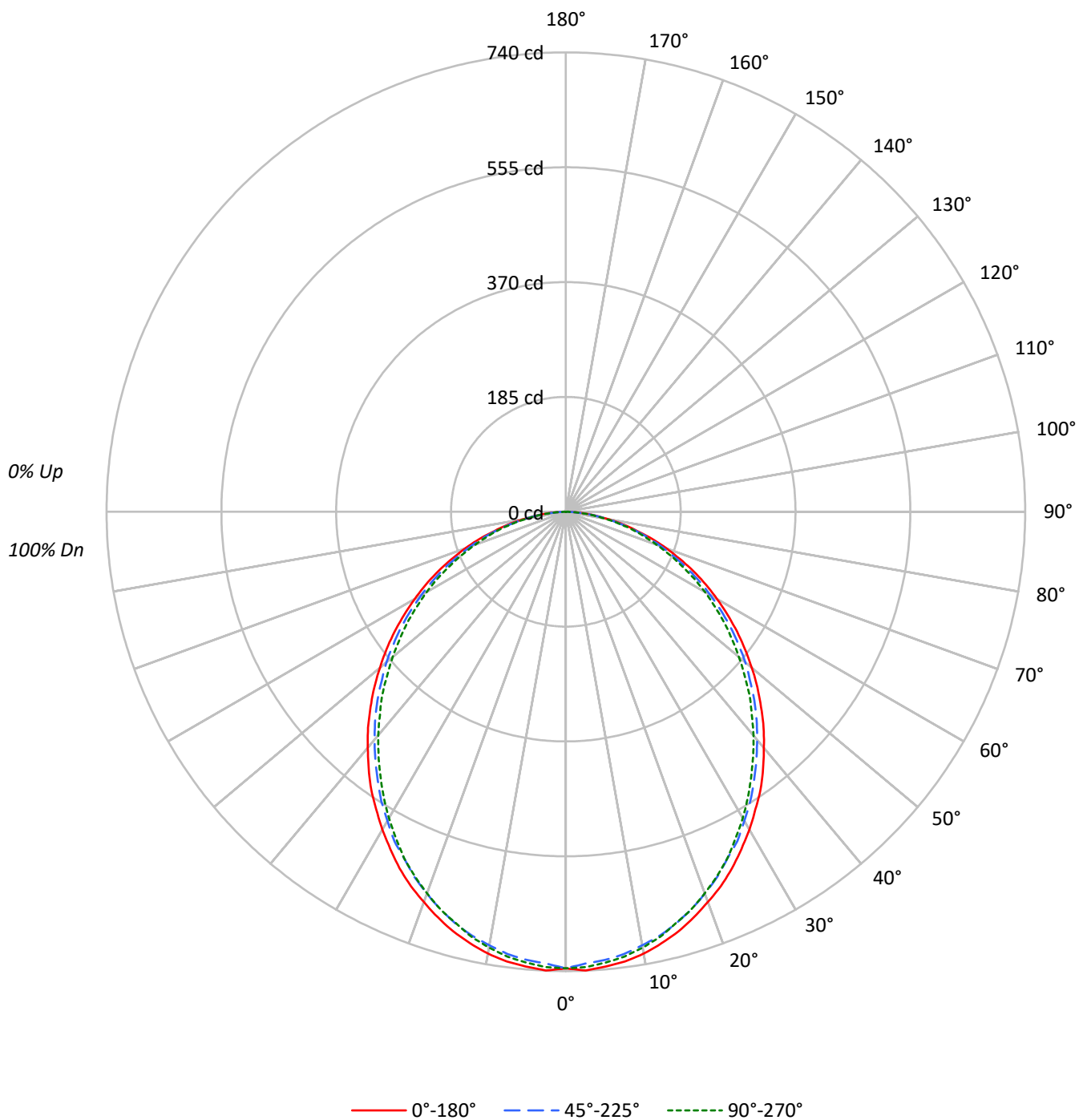
Lumens per Lamp: N/A
Luminaire Lumens: 1871.1 lumens
Efficiency: N/A
Efficacy: 96.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

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°	1841	1841	1841
5°	1848	1822	1833
10°	1838	1803	1812
15°	1815	1780	1778
20°	1783	1745	1743
25°	1751	1702	1702
30°	1709	1662	1648
35°	1671	1615	1591
40°	1623	1567	1537
45°	1575	1520	1482
50°	1523	1471	1419
55°	1469	1414	1361
60°	1409	1346	1296
65°	1345	1278	1219
70°	1264	1196	1139
75°	1149	1101	1074
80°	1021	989	937
85°	830	793	713

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1575 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.2	3.7
10°-20°	194.8	10.4
20°-30°	286.2	15.3
30°-40°	332.4	17.8
40°-50°	332.0	17.7
50°-60°	289.5	15.5
60°-70°	214.0	11.4
70°-80°	121.1	6.5
80°-90°	32.0	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°	550.2	29.4
0°-40°	882.6	47.2
0°-60°	1504.1	80.4
0°-90°	1871.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1871.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	735	735	735	735	735	
5°	735	733	725	730	729	70
15°	700	696	687	690	686	197
25°	634	628	616	617	616	292
35°	547	540	528	524	520	341
45°	445	440	429	422	419	343
55°	337	332	324	315	312	301
65°	227	223	216	209	206	224
75°	119	118	114	110	111	127
85°	29	28	28	25	25	34
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	735.4	735.4	735.4	735.4	735.4
2.5°	739.7	736.2	728.3	735.4	734.1
5°	735.4	732.7	724.8	730.5	729.1
7.5°	730.5	726.2	718.5	724.2	722.7
10°	722.7	717.8	709.3	714.9	712.8
12.5°	712.1	707.9	699.4	702.9	701.5
15°	700.1	695.9	686.6	689.5	686.0
17.5°	685.2	681.1	671.8	675.3	671.8
20°	669.0	664.7	654.8	657.0	654.1
22.5°	652.7	646.4	637.1	637.1	635.7
25°	633.6	628.0	616.0	617.3	616.0
27.5°	612.4	607.4	598.3	596.2	592.6
30°	591.2	585.5	574.9	572.9	569.9
32.5°	568.5	564.4	553.0	548.8	545.9
35°	546.7	539.6	528.3	524.0	520.4
37.5°	521.9	515.5	504.2	499.2	495.7
40°	496.4	490.7	479.4	473.2	470.2
42.5°	471.6	466.0	454.7	447.6	443.4
45°	444.8	439.9	429.2	421.5	418.6
47.5°	418.6	413.7	402.4	394.5	390.4
50°	391.0	387.5	377.6	367.7	364.2
52.5°	364.2	359.2	350.0	342.3	337.4
55°	336.6	332.4	323.9	315.4	311.8
57.5°	309.0	305.5	296.3	287.8	284.9
60°	281.4	278.7	268.8	260.9	258.8
62.5°	254.6	249.6	242.6	235.5	232.7
65°	227.0	222.7	215.7	209.3	205.8
67.5°	198.7	195.1	188.8	183.9	181.1
70°	172.6	169.7	163.3	158.4	155.6
72.5°	145.7	142.9	139.3	134.4	132.3
75°	118.8	117.5	113.8	109.6	111.0
77.5°	94.8	91.9	90.4	88.4	86.3
80°	70.8	70.0	68.6	66.4	65.0
82.5°	48.1	48.1	47.4	44.6	44.6
85°	28.9	28.3	27.6	25.4	24.8
87.5°	12.8	11.3	9.9	7.8	7.1
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	13.40	15.01	13.77	15.33	15.64	12.96	14.57	13.32	14.88	15.20
	3H	15.15	16.61	15.53	16.93	17.30	14.66	16.12	15.04	16.44	16.80
	4H	15.80	17.17	16.20	17.52	17.89	15.31	16.67	15.70	17.02	17.40
	6H	16.27	17.54	16.68	17.90	18.29	15.77	17.04	16.18	17.40	17.79
	8H	16.41	17.62	16.84	18.01	18.41	15.91	17.12	16.33	17.51	17.91
	12H	16.50	17.66	16.93	18.04	18.47	15.99	17.15	16.42	17.53	17.96
4H	2H	13.96	15.33	14.36	15.68	16.06	13.61	14.98	14.01	15.33	15.70
	3H	15.94	17.09	16.35	17.48	17.88	15.53	16.68	15.94	17.08	17.48
	4H	16.72	17.75	17.15	18.17	18.60	16.29	17.33	16.72	17.74	18.18
	6H	17.31	18.22	17.77	18.66	19.11	16.88	17.78	17.33	18.23	18.68
	8H	17.50	18.35	17.96	18.79	19.26	17.06	17.91	17.52	18.35	18.82
	12H	17.63	18.39	18.11	18.87	19.34	17.18	17.94	17.66	18.42	18.89
8H	4H	16.99	17.84	17.45	18.28	18.74	16.61	17.46	17.08	17.90	18.37
	6H	17.70	18.41	18.20	18.90	19.37	17.32	18.02	17.82	18.51	18.99
	8H	17.96	18.59	18.47	19.10	19.59	17.57	18.20	18.08	18.71	19.19
	12H	18.16	18.72	18.67	19.21	19.77	17.75	18.31	18.26	18.80	19.36
12H	4H	17.02	17.78	17.50	18.25	18.72	16.65	17.41	17.13	17.89	18.36
	6H	17.75	18.38	18.26	18.89	19.37	17.38	18.01	17.89	18.52	19.00
	8H	18.06	18.62	18.57	19.11	19.67	17.68	18.24	18.19	18.73	19.29