

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: P929857

Luminaire Tested: DFN2DS-4P3F0-020DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929857
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-4P3F0-020DS950-FLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

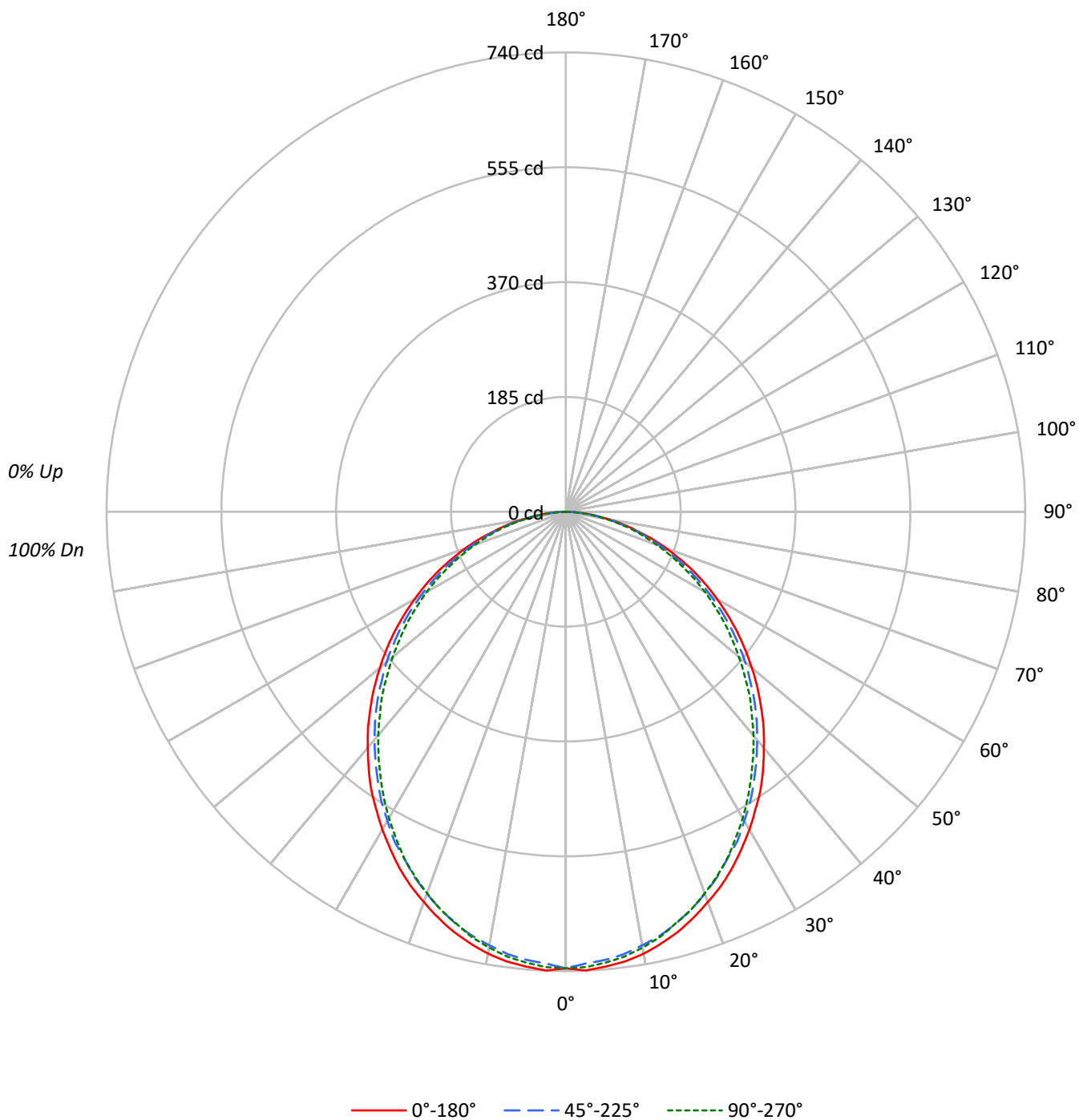
Lumens per Lamp: N/A
Luminaire Lumens: 1871.1 lumens
Efficiency: N/A
Efficacy: 100.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.07' x L: 3.07' x H: 0')
CIE Type: Direct

Input Watts (W): 18.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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°	838	838	838
5°	841	829	834
10°	836	821	825
15°	826	810	809
20°	811	794	793
25°	797	775	775
30°	778	757	750
35°	761	735	724
40°	738	713	699
45°	717	692	675
50°	693	669	646
55°	669	644	619
60°	641	613	590
65°	612	582	555
70°	575	544	518
75°	523	501	489
80°	465	450	427
85°	378	361	324

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 717 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	10.67	12.28	11.03	12.59	12.91	10.22	11.83	10.59	12.15	12.46
	3H	12.42	13.87	12.80	14.20	14.56	11.93	13.38	12.30	13.71	14.07
	4H	13.07	14.43	13.46	14.78	15.16	12.57	13.94	12.97	14.29	14.66
	6H	13.53	14.80	13.95	15.17	15.56	13.03	14.30	13.44	14.67	15.06
	8H	13.68	14.89	14.10	15.28	15.68	13.17	14.39	13.60	14.77	15.17
	12H	13.77	14.93	14.20	15.31	15.74	13.26	14.42	13.69	14.80	15.23
4H	2H	11.23	12.60	11.63	12.95	13.32	10.88	12.25	11.27	12.59	12.97
	3H	13.20	14.35	13.61	14.75	15.15	12.80	13.94	13.21	14.34	14.74
	4H	13.98	15.02	14.41	15.43	15.87	13.56	14.59	13.99	15.01	15.44
	6H	14.58	15.48	15.03	15.92	16.38	14.14	15.05	14.60	15.49	15.95
	8H	14.77	15.61	15.23	16.06	16.52	14.33	15.18	14.79	15.62	16.08
	12H	14.90	15.66	15.38	16.14	16.60	14.45	15.21	14.93	15.68	16.15
8H	4H	14.25	15.10	14.72	15.54	16.01	13.88	14.73	14.34	15.17	15.63
	6H	14.97	15.67	15.46	16.16	16.64	14.59	15.29	15.08	15.78	16.25
	8H	15.23	15.86	15.74	16.37	16.85	14.84	15.47	15.35	15.97	16.46
	12H	15.43	15.99	15.93	16.48	17.04	15.01	15.57	15.52	16.06	16.62
12H	4H	14.28	15.04	14.76	15.52	15.99	13.92	14.68	14.40	15.15	15.62
	6H	15.01	15.65	15.52	16.15	16.64	14.64	15.28	15.15	15.78	16.27
	8H	15.33	15.89	15.84	16.38	16.94	14.95	15.51	15.46	16.00	16.56