

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: P929853

Luminaire Tested: DFN2DS-4P3F0-020DS935-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929853
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-4P3F0-020DS935-FLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

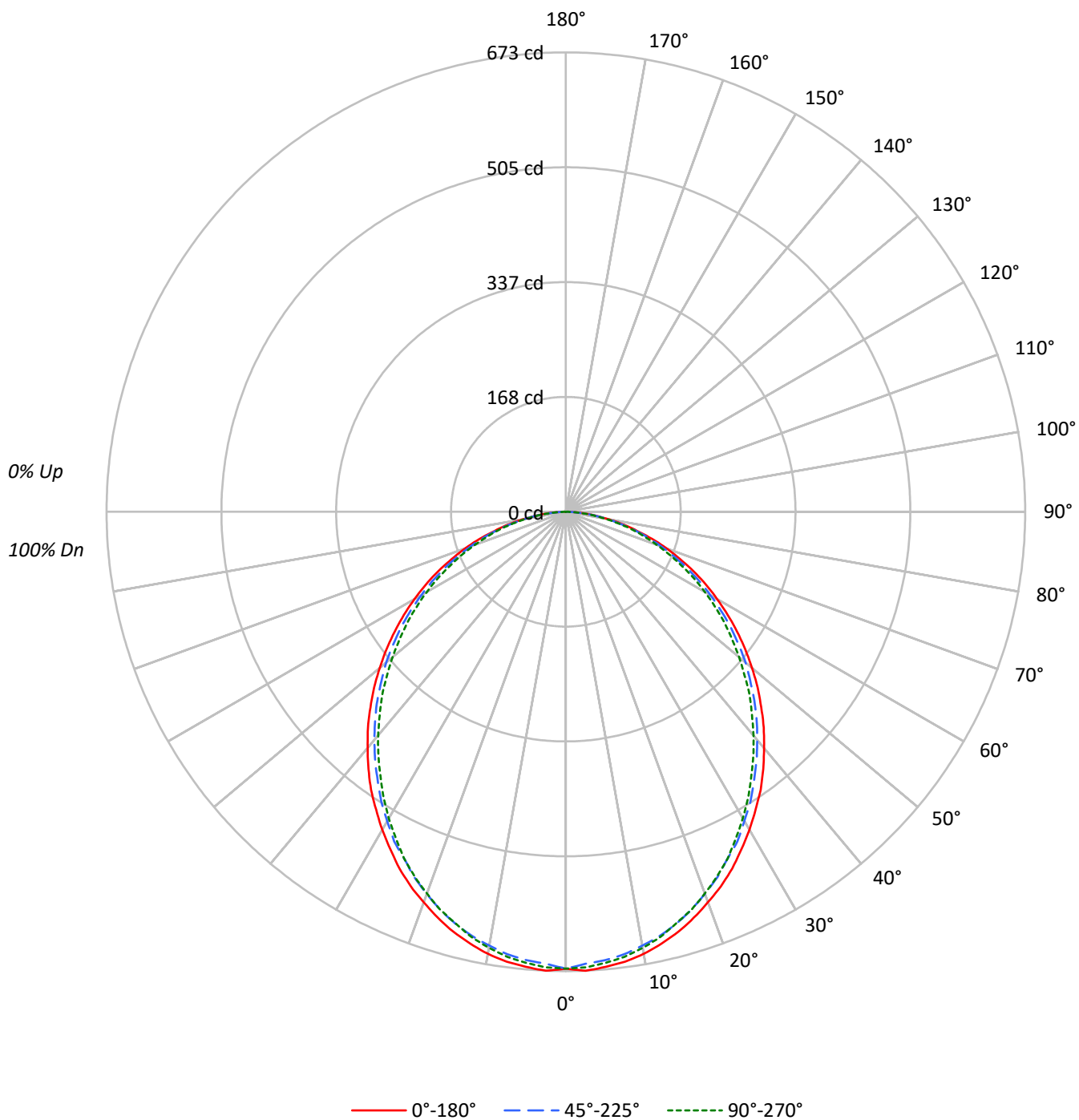
Lumens per Lamp: N/A
Luminaire Lumens: 1702.8 lumens
Efficiency: N/A
Efficacy: 91.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.07' x L: 3.07' x H: 0')
CIE Type: Direct

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°	763	763	763
5°	766	755	759
10°	761	747	751
15°	752	737	737
20°	738	723	722
25°	725	705	705
30°	708	688	683
35°	692	669	659
40°	672	649	637
45°	652	630	614
50°	631	609	588
55°	609	586	564
60°	584	557	537
65°	557	529	505
70°	523	495	472
75°	476	456	445
80°	423	410	389
85°	344	328	294

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 652 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.0	3.7
10°-20°	177.2	10.4
20°-30°	260.5	15.3
30°-40°	302.5	17.8
40°-50°	302.1	17.7
50°-60°	263.4	15.5
60°-70°	194.7	11.4
70°-80°	110.2	6.5
80°-90°	29.1	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°	500.7	29.4
0°-40°	803.2	47.2
0°-60°	1368.8	80.4
0°-90°	1702.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1702.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	669	669	669	669	669	
5°	669	667	660	665	664	64
15°	637	633	625	628	624	179
25°	577	572	560	562	560	265
35°	498	491	481	477	474	311
45°	405	400	391	384	381	312
55°	306	302	295	287	284	274
65°	207	203	196	190	187	204
75°	108	107	104	100	101	115
85°	26	26	25	23	22	31
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	669.3	669.3	669.3	669.3	669.3
2.5°	673.1	669.9	662.8	669.3	668.0
5°	669.3	666.8	659.6	664.8	663.5
7.5°	664.8	660.9	653.9	659.0	657.7
10°	657.7	653.3	645.5	650.6	648.7
12.5°	648.0	644.2	636.5	639.7	638.4
15°	637.1	633.3	624.9	627.5	624.3
17.5°	623.6	619.8	611.4	614.6	611.4
20°	608.8	604.9	595.9	597.9	595.3
22.5°	594.0	588.2	579.8	579.8	578.5
25°	576.6	571.5	560.5	561.8	560.5
27.5°	557.3	552.8	544.5	542.6	539.3
30°	538.0	532.9	523.2	521.3	518.7
32.5°	517.4	513.6	503.3	499.4	496.8
35°	497.5	491.1	480.7	476.9	473.6
37.5°	475.0	469.1	458.8	454.3	451.1
40°	451.8	446.6	436.3	430.6	427.9
42.5°	429.2	424.1	413.8	407.4	403.5
45°	404.8	400.3	390.6	383.6	381.0
47.5°	381.0	376.5	366.2	359.0	355.3
50°	355.9	352.7	343.7	334.6	331.4
52.5°	331.4	326.9	318.5	311.5	307.0
55°	306.3	302.5	294.7	287.1	283.8
57.5°	281.2	278.0	269.6	262.0	259.3
60°	256.1	253.6	244.6	237.4	235.6
62.5°	231.7	227.1	220.8	214.3	211.7
65°	206.6	202.7	196.3	190.5	187.3
67.5°	180.9	177.6	171.8	167.4	164.8
70°	157.0	154.5	148.6	144.1	141.6
72.5°	132.6	130.0	126.8	122.3	120.4
75°	108.1	106.9	103.5	99.8	101.0
77.5°	86.3	83.7	82.3	80.4	78.5
80°	64.4	63.7	62.4	60.5	59.2
82.5°	43.8	43.8	43.2	40.6	40.6
85°	26.3	25.7	25.1	23.1	22.5
87.5°	11.6	10.3	9.0	7.1	6.4
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	10.34	11.95	10.71	12.27	12.58	9.90	11.51	10.26	11.82	12.14
	3H	12.09	13.55	12.47	13.87	14.23	11.60	13.06	11.98	13.38	13.74
	4H	12.74	14.11	13.14	14.45	14.83	12.24	13.61	12.64	13.96	14.34
	6H	13.21	14.48	13.62	14.84	15.23	12.71	13.97	13.12	14.34	14.73
	8H	13.35	14.56	13.78	14.95	15.35	12.85	14.06	13.27	14.45	14.85
	12H	13.44	14.60	13.87	14.98	15.41	12.93	14.09	13.36	14.47	14.90
4H	2H	10.90	12.27	11.30	12.62	12.99	10.55	11.92	10.95	12.27	12.64
	3H	12.88	14.02	13.29	14.42	14.82	12.47	13.62	12.88	14.01	14.41
	4H	13.65	14.69	14.09	15.10	15.54	13.23	14.27	13.66	14.68	15.12
	6H	14.25	15.16	14.71	15.60	16.05	13.82	14.72	14.27	15.16	15.62
	8H	14.44	15.29	14.90	15.73	16.19	14.00	14.85	14.46	15.29	15.76
	12H	14.57	15.33	15.05	15.81	16.28	14.12	14.88	14.60	15.36	15.82
8H	4H	13.93	14.77	14.39	15.22	15.68	13.55	14.40	14.01	14.84	15.31
	6H	14.64	15.34	15.14	15.83	16.31	14.26	14.96	14.75	15.45	15.93
	8H	14.90	15.53	15.41	16.04	16.52	14.51	15.14	15.02	15.65	16.13
	12H	15.10	15.66	15.61	16.15	16.71	14.69	15.25	15.19	15.74	16.30
12H	4H	13.95	14.71	14.43	15.19	15.66	13.59	14.35	14.07	14.82	15.29
	6H	14.69	15.32	15.20	15.83	16.31	14.32	14.95	14.83	15.46	15.94
	8H	15.00	15.56	15.51	16.05	16.61	14.62	15.18	15.13	15.67	16.23