

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: P929851

Luminaire Tested: DFN2DS-4P3F0-020DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929851
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-4P3F0-020DS930-FLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

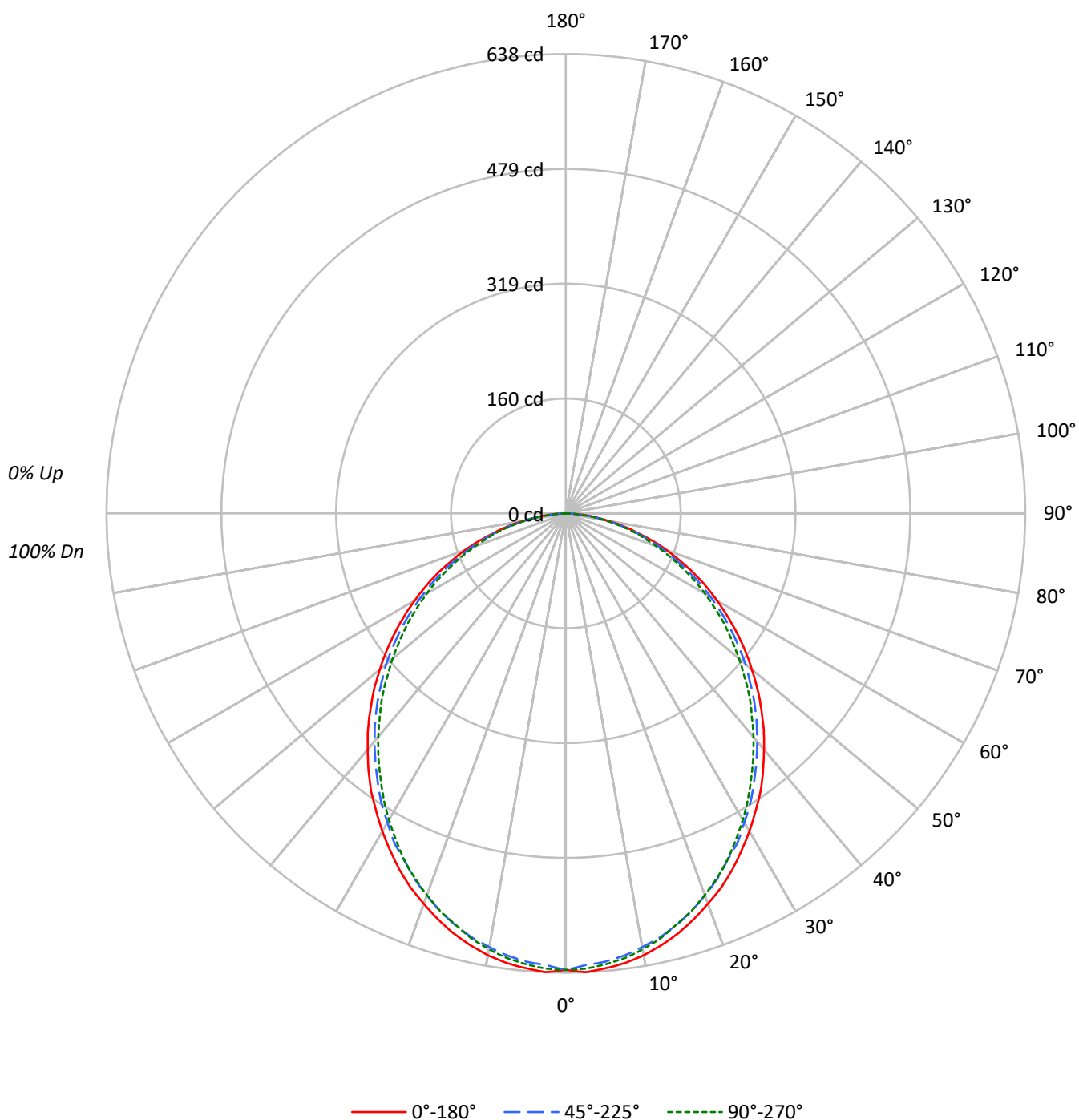
Lumens per Lamp: N/A
Luminaire Lumens: 1613.7 lumens
Efficiency: N/A
Efficacy: 86.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.07' x L: 3.07' x H: 0')
CIE Type: Direct

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°	723	723	723
5°	725	715	719
10°	721	708	711
15°	712	699	698
20°	700	685	684
25°	687	668	668
30°	671	652	647
35°	656	634	624
40°	637	615	603
45°	618	597	582
50°	598	577	557
55°	577	555	534
60°	553	528	509
65°	528	502	479
70°	496	469	447
75°	451	432	422
80°	400	389	368
85°	326	311	280

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 618 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.7	3.7
10°-20°	168.0	10.4
20°-30°	246.8	15.3
30°-40°	286.7	17.8
40°-50°	286.3	17.7
50°-60°	249.7	15.5
60°-70°	184.6	11.4
70°-80°	104.4	6.5
80°-90°	27.6	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°	474.5	29.4
0°-40°	761.2	47.2
0°-60°	1297.2	80.4
0°-90°	1613.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1613.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	634	634	634	634	634	
5°	634	632	625	630	629	60
15°	604	600	592	595	592	170
25°	546	542	531	532	531	251
35°	472	465	456	452	449	294
45°	384	379	370	364	361	296
55°	290	287	279	272	269	260
65°	196	192	186	180	178	194
75°	102	101	98	94	96	109
85°	25	24	24	22	21	29
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	634.2	634.2	634.2	634.2	634.2
2.5°	637.9	634.9	628.1	634.2	633.1
5°	634.2	631.9	625.1	630.0	628.8
7.5°	630.0	626.3	619.6	624.5	623.3
10°	623.3	619.1	611.7	616.5	614.8
12.5°	614.1	610.5	603.2	606.2	605.0
15°	603.8	600.2	592.2	594.6	591.6
17.5°	591.0	587.4	579.4	582.4	579.4
20°	576.9	573.3	564.7	566.6	564.1
22.5°	562.9	557.5	549.5	549.5	548.3
25°	546.5	541.6	531.2	532.4	531.2
27.5°	528.1	523.9	516.0	514.2	511.1
30°	509.9	505.0	495.8	494.1	491.5
32.5°	490.3	486.7	476.9	473.3	470.8
35°	471.5	465.4	455.6	451.9	448.8
37.5°	450.1	444.6	434.8	430.6	427.5
40°	428.1	423.2	413.4	408.1	405.5
42.5°	406.8	401.9	392.2	386.1	382.4
45°	383.6	379.4	370.2	363.5	361.0
47.5°	361.0	356.8	347.0	340.3	336.7
50°	337.2	334.2	325.7	317.1	314.1
52.5°	314.1	309.8	301.9	295.2	291.0
55°	290.3	286.6	279.3	272.0	269.0
57.5°	266.5	263.5	255.5	248.2	245.7
60°	242.7	240.3	231.8	225.0	223.2
62.5°	219.6	215.2	209.2	203.1	200.7
65°	195.8	192.1	186.1	180.5	177.5
67.5°	171.4	168.3	162.8	158.6	156.2
70°	148.8	146.4	140.8	136.6	134.2
72.5°	125.7	123.2	120.1	115.9	114.1
75°	102.4	101.3	98.1	94.5	95.8
77.5°	81.7	79.3	78.0	76.2	74.4
80°	61.0	60.4	59.2	57.3	56.1
82.5°	41.5	41.5	40.9	38.5	38.5
85°	24.9	24.4	23.8	21.9	21.4
87.5°	11.0	9.8	8.6	6.8	6.1
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	10.15	11.77	10.52	12.08	12.39	9.71	11.32	10.07	11.63	11.95
	3H	11.90	13.36	12.28	13.69	14.05	11.41	12.87	11.79	13.19	13.56
	4H	12.55	13.92	12.95	14.27	14.64	12.06	13.43	12.45	13.77	14.15
	6H	13.02	14.29	13.43	14.65	15.04	12.52	13.79	12.93	14.15	14.54
	8H	13.16	14.37	13.59	14.76	15.16	12.66	13.87	13.09	14.26	14.66
	12H	13.25	14.41	13.68	14.80	15.22	12.74	13.90	13.17	14.28	14.71
4H	2H	10.72	12.08	11.11	12.43	12.81	10.36	11.73	10.76	12.08	12.46
	3H	12.69	13.84	13.10	14.23	14.63	12.28	13.43	12.69	13.83	14.23
	4H	13.47	14.50	13.90	14.92	15.35	13.04	14.08	13.47	14.49	14.93
	6H	14.06	14.97	14.52	15.41	15.87	13.63	14.54	14.08	14.98	15.43
	8H	14.25	15.10	14.71	15.54	16.01	13.81	14.66	14.28	15.10	15.57
	12H	14.38	15.14	14.87	15.62	16.09	13.93	14.69	14.41	15.17	15.64
8H	4H	13.74	14.59	14.20	15.03	15.49	13.37	14.21	13.83	14.65	15.12
	6H	14.45	15.16	14.95	15.65	16.12	14.07	14.78	14.57	15.26	15.74
	8H	14.71	15.34	15.22	15.85	16.34	14.32	14.95	14.83	15.46	15.95
	12H	14.91	15.47	15.42	15.96	16.52	14.50	15.06	15.01	15.55	16.11
12H	4H	13.77	14.53	14.25	15.00	15.47	13.40	14.16	13.88	14.64	15.11
	6H	14.50	15.13	15.01	15.64	16.12	14.13	14.76	14.64	15.27	15.76
	8H	14.81	15.37	15.32	15.86	16.42	14.44	14.99	14.94	15.48	16.05