

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: P929849

Luminaire Tested: DFN2DS-4P3F0-020DS927-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929849
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-4P3F0-020DS927-FLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

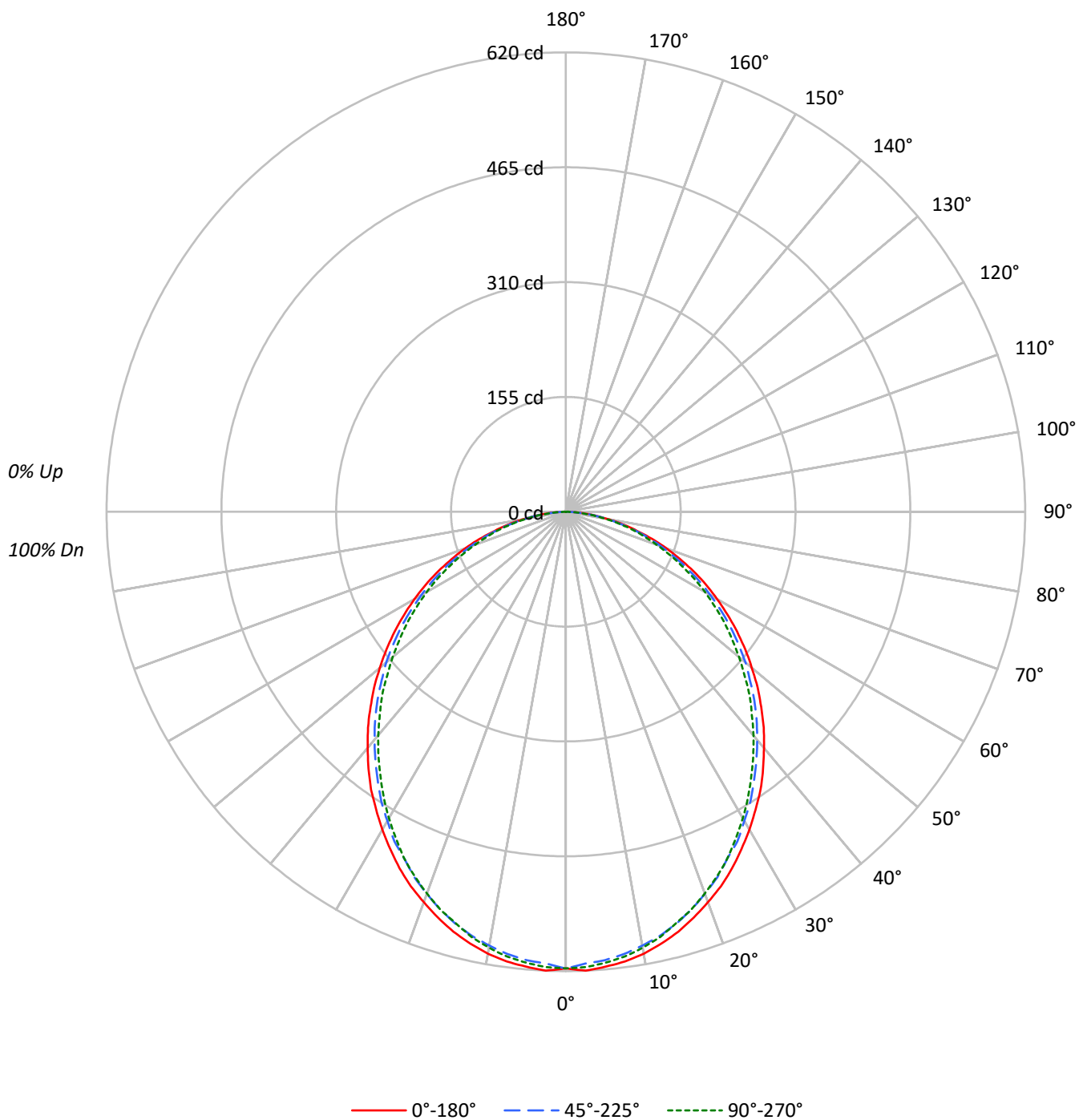
Lumens per Lamp: N/A
Luminaire Lumens: 1568.2 lumens
Efficiency: N/A
Efficacy: 84.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.07' x L: 3.07' x H: 0')
CIE Type: Direct

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	30	10	50	30	10
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°	702	702	702
5°	705	695	699
10°	701	688	691
15°	692	679	678
20°	680	666	665
25°	668	649	649
30°	652	634	629
35°	637	616	607
40°	619	598	586
45°	601	580	566
50°	581	561	541
55°	560	539	519
60°	538	513	494
65°	513	488	465
70°	482	456	434
75°	439	420	410
80°	389	377	358
85°	316	302	272

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 601 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.0	3.7
10°-20°	163.2	10.4
20°-30°	239.9	15.3
30°-40°	278.6	17.8
40°-50°	278.2	17.7
50°-60°	242.6	15.5
60°-70°	179.3	11.4
70°-80°	101.5	6.5
80°-90°	26.8	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°	461.1	29.4
0°-40°	739.7	47.2
0°-60°	1260.6	80.4
0°-90°	1568.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1568.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	616	616	616	616	616	
5°	616	614	608	612	611	59
15°	587	583	576	578	575	165
25°	531	526	516	517	516	244
35°	458	452	443	439	436	286
45°	373	369	360	353	351	288
55°	282	278	271	264	261	252
65°	190	187	181	175	172	188
75°	100	98	95	92	93	106
85°	24	24	23	21	21	29
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	616.3	616.3	616.3	616.3	616.3
2.5°	619.9	617.0	610.4	616.3	615.2
5°	616.3	614.0	607.5	612.2	611.0
7.5°	612.2	608.7	602.2	606.9	605.7
10°	605.7	601.6	594.5	599.1	597.4
12.5°	596.8	593.3	586.2	589.1	587.9
15°	586.7	583.2	575.5	577.8	574.9
17.5°	574.3	570.8	563.0	566.0	563.0
20°	560.7	557.1	548.8	550.6	548.2
22.5°	547.0	541.7	534.0	534.0	532.8
25°	531.0	526.3	516.2	517.3	516.2
27.5°	513.2	509.1	501.4	499.7	496.7
30°	495.5	490.7	481.9	480.1	477.7
32.5°	476.5	473.0	463.5	459.9	457.5
35°	458.2	452.2	442.7	439.2	436.2
37.5°	437.4	432.0	422.5	418.4	415.4
40°	416.0	411.3	401.8	396.6	394.1
42.5°	395.3	390.5	381.1	375.2	371.6
45°	372.8	368.7	359.7	353.2	350.9
47.5°	350.9	346.7	337.2	330.7	327.2
50°	327.7	324.8	316.5	308.2	305.2
52.5°	305.2	301.0	293.4	286.9	282.7
55°	282.1	278.5	271.4	264.4	261.4
57.5°	259.0	256.1	248.3	241.2	238.8
60°	235.9	233.6	225.2	218.7	216.9
62.5°	213.4	209.2	203.3	197.4	195.0
65°	190.2	186.7	180.8	175.4	172.5
67.5°	166.6	163.5	158.2	154.1	151.7
70°	144.6	142.2	136.9	132.7	130.4
72.5°	122.1	119.8	116.7	112.6	110.9
75°	99.6	98.4	95.4	91.9	93.1
77.5°	79.4	77.1	75.8	74.1	72.3
80°	59.3	58.7	57.5	55.7	54.5
82.5°	40.3	40.3	39.8	37.4	37.4
85°	24.2	23.7	23.1	21.3	20.8
87.5°	10.7	9.5	8.3	6.6	5.9
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	10.06	11.67	10.42	11.98	12.30	9.61	11.22	9.98	11.54	11.85
	3H	11.81	13.26	12.18	13.59	13.95	11.31	12.77	11.69	13.09	13.46
	4H	12.45	13.82	12.85	14.17	14.55	11.96	13.33	12.35	13.67	14.05
	6H	12.92	14.19	13.33	14.55	14.95	12.42	13.69	12.83	14.05	14.44
	8H	13.06	14.28	13.49	14.66	15.06	12.56	13.77	12.99	14.16	14.56
	12H	13.15	14.31	13.58	14.70	15.12	12.64	13.80	13.07	14.18	14.61
4H	2H	10.62	11.99	11.02	12.33	12.71	10.26	11.63	10.66	11.98	12.36
	3H	12.59	13.74	13.00	14.14	14.54	12.18	13.33	12.59	13.73	14.13
	4H	13.37	14.40	13.80	14.82	15.25	12.94	13.98	13.37	14.39	14.83
	6H	13.96	14.87	14.42	15.31	15.77	13.53	14.44	13.99	14.88	15.33
	8H	14.15	15.00	14.61	15.44	15.91	13.72	14.56	14.18	15.00	15.47
	12H	14.29	15.05	14.77	15.52	15.99	13.83	14.59	14.31	15.07	15.54
8H	4H	13.64	14.49	14.10	14.93	15.40	13.27	14.11	13.73	14.56	15.02
	6H	14.36	15.06	14.85	15.55	16.02	13.97	14.68	14.47	15.16	15.64
	8H	14.61	15.25	15.12	15.75	16.24	14.22	14.85	14.73	15.36	15.85
	12H	14.81	15.37	15.32	15.86	16.42	14.40	14.96	14.91	15.45	16.01
12H	4H	13.67	14.43	14.15	14.90	15.37	13.30	14.06	13.78	14.54	15.01
	6H	14.40	15.03	14.91	15.54	16.03	14.03	14.66	14.54	15.17	15.66
	8H	14.72	15.27	15.22	15.76	16.32	14.34	14.89	14.84	15.39	15.95