

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: P929789

Luminaire Tested: DFN2DS-4P2F0-020DS835-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929789
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-4P2F0-020DS835-FLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

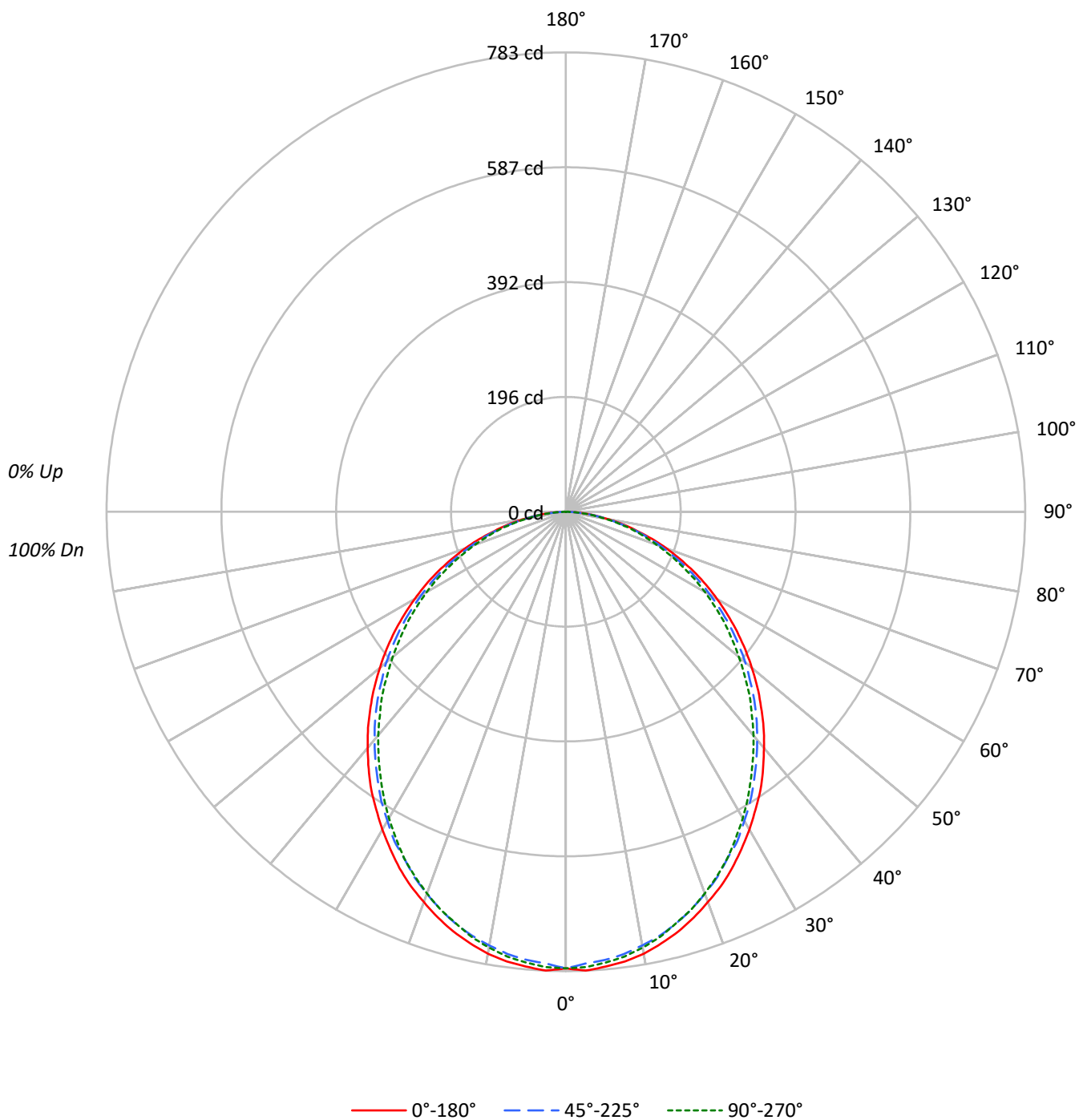
Lumens per Lamp: N/A
Luminaire Lumens: 1980.0 lumens
Efficiency: N/A
Efficacy: 102.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P929789

CATALOG NUMBER: DFN2DS-4P2F0-020DS835-FLL

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°	1949	1949	1949
5°	1956	1928	1939
10°	1945	1908	1918
15°	1920	1884	1882
20°	1886	1846	1844
25°	1852	1801	1801
30°	1809	1759	1744
35°	1768	1709	1683
40°	1717	1658	1627
45°	1667	1608	1569
50°	1612	1557	1501
55°	1555	1496	1441
60°	1491	1424	1372
65°	1423	1353	1290
70°	1337	1265	1206
75°	1216	1165	1137
80°	1080	1047	992
85°	879	839	753

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1667 cd/sqm

TEST NUMBER: P929789

CATALOG NUMBER: DFN2DS-4P2F0-020DS835-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.2	3.7
10°-20°	206.1	10.4
20°-30°	302.9	15.3
30°-40°	351.8	17.8
40°-50°	351.3	17.7
50°-60°	306.3	15.5
60°-70°	226.5	11.4
70°-80°	128.1	6.5
80°-90°	33.8	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°	582.2	29.4
0°-40°	934.0	47.2
0°-60°	1591.6	80.4
0°-90°	1980.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1980.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	778	778	778	778	778	
5°	778	775	767	773	772	74
15°	741	736	727	730	726	209
25°	670	664	652	653	652	309
35°	578	571	559	554	551	361
45°	471	466	454	446	443	363
55°	356	352	343	334	330	318
65°	240	236	228	222	218	238
75°	126	124	120	116	118	134
85°	31	30	29	27	26	36
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	778.2	778.2	778.2	778.2	778.2
2.5°	782.7	779.0	770.7	778.2	776.8
5°	778.2	775.3	767.0	773.0	771.5
7.5°	773.0	768.5	760.3	766.3	764.8
10°	764.8	759.6	750.6	756.5	754.3
12.5°	753.5	749.1	740.1	743.8	742.3
15°	740.8	736.4	726.6	729.6	725.9
17.5°	725.1	720.7	710.9	714.6	710.9
20°	707.9	703.4	692.9	695.2	692.2
22.5°	690.7	684.0	674.2	674.2	672.7
25°	670.5	664.5	651.8	653.2	651.8
27.5°	648.0	642.8	633.1	630.9	627.1
30°	625.6	619.6	608.4	606.2	603.1
32.5°	601.6	597.2	585.2	580.7	577.7
35°	578.5	571.0	559.0	554.5	550.7
37.5°	552.3	545.5	533.5	528.3	524.5
40°	525.3	519.3	507.3	500.7	497.6
42.5°	499.1	493.1	481.2	473.7	469.2
45°	470.7	465.5	454.2	446.0	443.0
47.5°	443.0	437.8	425.8	417.5	413.1
50°	413.8	410.1	399.6	389.1	385.4
52.5°	385.4	380.1	370.4	362.2	357.0
55°	356.2	351.7	342.7	333.8	330.0
57.5°	327.0	323.3	313.5	304.6	301.5
60°	297.8	294.9	284.4	276.1	273.9
62.5°	269.4	264.1	256.7	249.2	246.2
65°	240.2	235.7	228.3	221.5	217.8
67.5°	210.3	206.5	199.8	194.6	191.6
70°	182.6	179.6	172.8	167.6	164.7
72.5°	154.2	151.2	147.4	142.2	140.0
75°	125.7	124.3	120.4	116.0	117.5
77.5°	100.3	97.3	95.7	93.5	91.3
80°	74.9	74.1	72.6	70.3	68.8
82.5°	50.9	50.9	50.2	47.2	47.2
85°	30.6	29.9	29.2	26.9	26.2
87.5°	13.5	12.0	10.5	8.3	7.5
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	13.60	15.21	13.97	15.53	15.84	13.16	14.77	13.52	15.08	15.40
	3H	15.35	16.81	15.73	17.13	17.49	14.86	16.31	15.24	16.64	17.00
	4H	16.00	17.37	16.40	17.71	18.09	15.50	16.87	15.90	17.22	17.60
	6H	16.47	17.74	16.88	18.10	18.49	15.96	17.23	16.38	17.60	17.99
	8H	16.61	17.82	17.03	18.21	18.61	16.11	17.32	16.53	17.71	18.11
	12H	16.70	17.86	17.13	18.24	18.67	16.19	17.35	16.62	17.73	18.16
4H	2H	14.16	15.53	14.56	15.88	16.25	13.81	15.18	14.21	15.53	15.90
	3H	16.14	17.28	16.55	17.68	18.08	15.73	16.88	16.14	17.27	17.67
	4H	16.91	17.95	17.34	18.36	18.80	16.49	17.53	16.92	17.94	18.37
	6H	17.51	18.41	17.96	18.86	19.31	17.08	17.98	17.53	18.42	18.88
	8H	17.70	18.55	18.16	18.99	19.45	17.26	18.11	17.72	18.55	19.01
	12H	17.83	18.59	18.31	19.07	19.54	17.38	18.14	17.86	18.61	19.08
8H	4H	17.19	18.03	17.65	18.48	18.94	16.81	17.66	17.27	18.10	18.57
	6H	17.90	18.60	18.39	19.09	19.57	17.52	18.22	18.01	18.71	19.19
	8H	18.16	18.79	18.67	19.30	19.78	17.77	18.40	18.28	18.91	19.39
	12H	18.36	18.92	18.87	19.41	19.97	17.95	18.50	18.45	18.99	19.56
12H	4H	17.21	17.97	17.69	18.45	18.92	16.85	17.61	17.33	18.08	18.55
	6H	17.95	18.58	18.46	19.08	19.57	17.58	18.21	18.09	18.72	19.20
	8H	18.26	18.82	18.77	19.31	19.87	17.88	18.44	18.39	18.93	19.49