

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: P905576

Luminaire Tested: DFN2DIP-PN2F0-020D020US835-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905576
REPORT IS A COMBINATION OF REPORTS P899461 AND P896349
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-020D020US835-FLLFLL
Description: 2 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

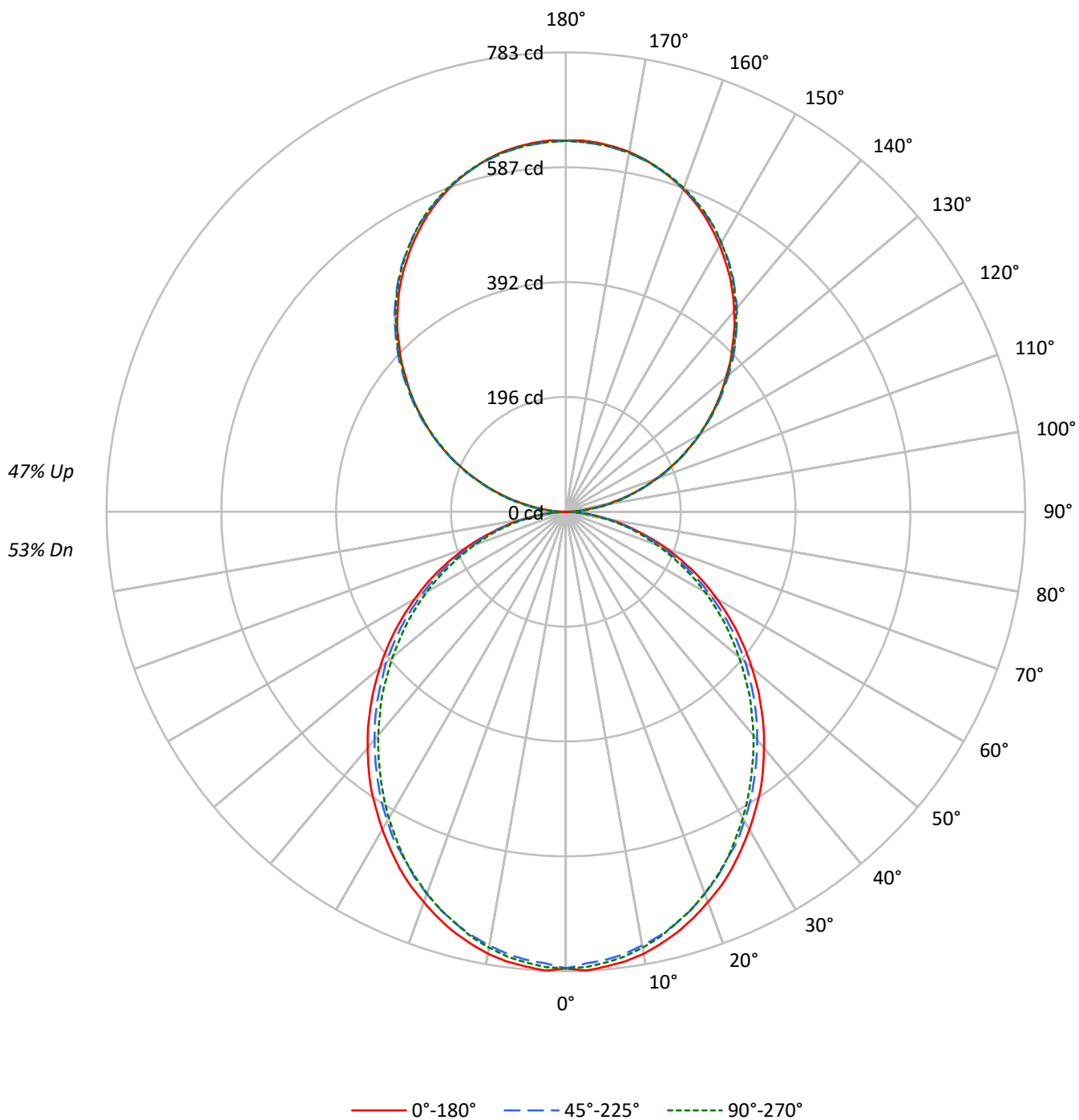
Lumens per Lamp: N/A
Luminaire Lumens: 3750.0 lumens
Efficiency: N/A
Efficacy: 116.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 32.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P905576

CATALOG NUMBER: DFN2DIP-PN2F0-020D020US835-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P905576

CATALOG NUMBER: DFN2DIP-PN2F0-020D020US835-FLLFL

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
RCR																	
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59
1	98	94	90	87	91	87	84	81	74	72	70	63	61	59	52	51	50
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42
3	82	72	65	59	75	67	61	55	58	53	49	49	45	42	41	38	36
4	75	64	56	50	69	60	52	47	51	46	41	43	39	36	36	33	31
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	29	27
6	63	51	43	37	58	48	40	35	41	36	31	35	31	27	30	26	24
7	59	46	38	33	54	43	36	31	37	32	28	32	28	24	27	24	21
8	54	42	34	29	50	39	32	27	34	29	24	29	25	22	25	21	19
9	51	38	31	26	47	36	29	24	31	26	22	27	23	19	23	20	17
10	47	35	28	23	44	33	26	22	29	23	20	25	21	18	21	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1685	1685	1685
5°	1685	1658	1671
10°	1669	1633	1646
15°	1642	1602	1608
20°	1606	1561	1569
25°	1570	1513	1525
30°	1526	1468	1469
35°	1484	1415	1411
40°	1433	1362	1355
45°	1381	1308	1297
50°	1325	1252	1231
55°	1266	1187	1169
60°	1199	1110	1099
65°	1125	1030	1016
70°	1032	932	926
75°	904	815	839
80°	749	666	681
85°	507	421	427

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1381 cd/sqm

TEST NUMBER: P905576

CATALOG NUMBER: DFN2DIP-PN2F0-020D020US835-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.2	2.0
10°-20°	206.1	5.5
20°-30°	302.9	8.1
30°-40°	351.8	9.4
40°-50°	351.3	9.4
50°-60°	306.3	8.2
60°-70°	226.5	6.0
70°-80°	128.1	3.4
80°-90°	35.6	0.9
90°-100°	39.1	1.0
100°-110°	124.4	3.3
110°-120°	212.8	5.7
120°-130°	279.9	7.5
130°-140°	314.2	8.4
140°-150°	308.1	8.2
150°-160°	258.4	6.9
160°-170°	171.4	4.6
170°-180°	59.9	1.6
0°-30°	582.2	15.5
0°-40°	934.0	24.9
0°-60°	1591.6	42.4
0°-90°	1981.8	52.8
90°-120°	376.3	10.0
90°-150°	1278.5	34.1
90°-180°	1768.0	47.1
0°-180°	3750.0	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	34
90°	1	7	19	18	18	4
95°	28	33	34	34	33	31
105°	115	116	118	118	118	121
115°	214	217	216	215	214	211
125°	311	315	314	312	312	278
135°	402	408	409	408	407	311
145°	488	492	495	495	493	305
155°	558	559	561	564	562	257
165°	607	606	606	610	607	171
175°	631	630	629	632	629	60
180°	632	632	632	632	632	

TEST NUMBER: P905576

CATALOG NUMBER: DFN2DIP-PN2F0-020D020US835-FLLFLL

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°	0.6	6.9	18.7	17.5	18.1
92.5°	11.8	16.0	16.6	17.2	17.2
95°	27.8	33.2	34.1	34.1	33.2
97.5°	46.3	51.3	53.4	53.4	53.4
100°	67.7	72.1	73.6	73.6	73.0
102.5°	90.2	93.4	95.5	96.1	95.5
105°	114.8	116.3	117.5	118.4	118.4
107.5°	139.2	141.5	141.5	141.9	139.2
110°	162.9	165.9	165.9	165.9	164.4

TEST NUMBER: P905576

CATALOG NUMBER: DFN2DIP-PN2F0-020D020US835-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	188.4	191.6	191.1	189.5	188.4
115°	213.6	216.6	215.7	215.1	213.6
117.5°	238.6	242.8	240.1	238.6	237.0
120°	263.7	267.9	263.7	263.7	262.0
122.5°	286.6	291.9	289.3	287.8	286.6
125°	310.6	315.4	313.9	312.2	311.6
127.5°	334.1	340.0	337.9	335.6	334.1
130°	356.0	362.9	361.9	360.8	358.7
132.5°	380.6	386.0	386.3	383.7	382.1
135°	401.8	407.7	408.8	408.3	406.7
137.5°	425.4	430.2	431.2	430.8	428.5
140°	446.2	451.0	453.7	453.7	451.6
142.5°	467.6	472.3	473.9	474.4	472.3
145°	487.8	491.6	494.7	495.2	493.1
147.5°	505.9	510.7	513.0	513.9	511.8
150°	524.6	527.8	529.9	531.6	529.9
152.5°	541.2	544.4	547.1	549.2	547.1
155°	557.8	559.3	561.0	563.7	562.0
157.5°	572.1	573.2	574.2	578.0	575.3
160°	584.9	586.0	586.6	589.8	587.5
162.5°	596.7	596.7	597.2	600.9	598.2
165°	606.8	606.2	606.2	610.0	607.4
167.5°	615.9	614.2	614.2	618.0	615.4
170°	622.8	621.3	620.7	624.5	621.3
172.5°	627.6	626.0	625.5	629.3	626.0
175°	631.4	629.9	628.7	632.5	629.3
177.5°	633.5	632.0	630.8	634.0	630.8
180°	632.5	632.5	632.5	632.5	632.5

TEST NUMBER: P905576

CATALOG NUMBER: DFN2DIP-PN2F0-020D020US835-FLLFLL

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	9.23	10.12	10.16	11.06	12.29	8.79	9.68	9.72	10.63	11.86
	3H	10.87	11.67	11.81	12.62	13.88	10.39	11.19	11.33	12.15	13.40
	4H	11.45	12.20	12.40	13.16	14.42	10.96	11.72	11.92	12.68	13.94
	6H	11.83	12.53	12.80	13.49	14.77	11.34	12.04	12.31	13.01	14.28
	8H	11.93	12.59	12.90	13.58	14.85	11.44	12.10	12.42	13.09	14.36
	12H	11.97	12.60	12.95	13.58	14.88	11.48	12.11	12.46	13.09	14.38
4H	2H	9.68	10.44	10.65	11.40	12.66	9.33	10.09	10.30	11.05	12.31
	3H	11.53	12.16	12.50	13.15	14.42	11.13	11.76	12.10	12.75	14.03
	4H	12.23	12.80	13.21	13.79	15.09	11.81	12.39	12.79	13.37	14.67
	6H	12.72	13.22	13.72	14.23	15.53	12.30	12.80	13.30	13.81	15.11
	8H	12.86	13.33	13.86	14.33	15.64	12.44	12.90	13.44	13.91	15.22
	12H	12.93	13.35	13.94	14.37	15.68	12.49	12.91	13.51	13.93	15.25
8H	4H	12.41	12.88	13.41	13.88	15.19	12.04	12.51	13.04	13.51	14.82
	6H	13.02	13.40	14.04	14.45	15.76	12.65	13.03	13.67	14.08	15.39
	8H	13.23	13.57	14.26	14.60	15.93	12.85	13.19	13.88	14.22	15.55
	12H	13.35	13.65	14.38	14.67	16.05	12.95	13.25	13.98	14.27	15.65
12H	4H	12.40	12.82	13.41	13.84	15.15	12.04	12.46	13.05	13.47	14.79
	6H	13.05	13.39	14.08	14.42	15.75	12.68	13.02	13.71	14.05	15.38
	8H	13.27	13.57	14.31	14.60	15.97	12.90	13.20	13.94	14.23	15.60